ELECTRICAL SOUTH

APRIL, 1950

Contents, Page 19 — APPLIANCE SECTION • PAGE 61 — Adv. Index, Pages 113 and 114

Biggest Value in Window Fans!

Look at these features:

- High and low speeds
- Electrically reversible
- Adjustable mounting panels
- New streamlined design
- Light ivory (baked enamel) cabinet
- Modern, silver-finish grille
- Weather-proof motor housing
- Guaranteed 1 year
- 2500 CFM certified air delivery

Place Your Order Now! Contact your Hunter distributor or write us for prices and complete information.

HUNTER FAN AND VENTILATING COMPANY
392 S. Front St., Memphis 2, Tenn.

FREE DISPLAY ON ORDERS FOR 3 OR MORE FANS

Priced to retail for only $54.95

New HUNTER WINDOW FAN

Designed for Contractors
by Wakefield
The Pre-Installed Strap
. . . vital first step in
easy one-man installation
Run a chalk line along the ceiling, measure off your intervals, attach all the straps in the line with toggle or anchor bolts—then carry up your units one at a time and slip the flared ends of the stems into the bayonet slot of the straps. As simple as that. One man can do it. Saves time, saves labor, gives your customer an economical job. And each successive step is just as easy—all the way through to final installation . . . as we'll show you in further ads.
Wide-awake contractors don't say, "Hang the expense!" They say, "Hang Wakefield!"
The F. W. Wakefield Brass Company · Vermilion, Ohio
Wakefield
Over-ALL Lighting

NEW!

COMPACT! ECONOMICAL!

Murray LOAD CENTERS

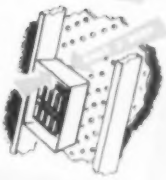
with Fully Magnetic Circuit Breakers

that are Interchangeable with Other New Single Pole Individually Housed Breakers

Now you can get all the advantages of *fully magnetic* circuit breaker protection in load centers that are trim and compact — with breakers that are interchangeable with other new single pole individually housed breakers! Now you can get utmost flexibility with minimum stock — make up your own combination right on the job! Now you can forget about "derating" . . . now you can banish the nuisance of false tripping . . . now you can make satisfactory installations of circuit breakers in warm or poorly ventilated locations—where space and cost are important!

These compact new Murray load centers are available in 2, 6 or 8 circuit models. They come equipped with the sensational new *small size* Murray fully magnetic circuit breakers — now 30 per cent smaller than previous fully magnetic circuit breakers — available in ratings of 10 through 50 amp. They save you time . . . save you trouble . . . save you money — yet assure the user positive protection combined with utmost satisfaction!

Shallower Box — only 3 inches deep—ideal for flush installation in "dry wall" construction. Plus a simple ⅛" plaster line adjustment!



See for yourself why Murray fully magnetic breakers can't trip from heat . . . never need derating . . . always carry rated load plus harmless overloads—even in warm locations and poorly ventilated panels. Clear, simple diagrams tell the story in this folder. Write for your copy today.

Murray MANUFACTURING CORPORATION

1250 ATLANTIC AVENUE • BROOKLYN 16, N. Y.

Electrical Safety Devices for Home and Industry

ELECTRICAL SOUTH is published monthly by W. R. C. Smith Publishing Co., Marietta, Ga., and Atlanta, Ga., U. S. A. Subscription rates: United States and Possessions, $1.50 for one year; Canada and Foreign Countries, $10.00 per year. Entered as second class matter at the Post Office, Marietta, Ga., under Act of March 3, 1879.

Volume 30 Number 4

Standard rubber insulation

TYPICAL TEST RESULTS ON RUBBER COMPOUNDS

The tabulation below lists representative values that have been obtained in actual tests of these rubber compounds.

PROPERTIES AND TESTS		REPRESENTATIVE TEST VALUES FOR VARIOUS COMPOUNDS						
		AMARINE —40	AMERZONE —0	AMERZONE —B	AMARINE —RWS	AMERITE	AMPEROX	AMERPRENE
BASIC TYPE OF INSULATION		Natural Rubber	Oil-base	Butyl Rubber	Synthetic Rubber	Commercial 30%	Heat-Resistant	Polychlor-oprene
MAX. REC. COPPER TEMP.		60°C	75°C	80°C	75°C	60°C	75°C	80°C
ELECTRICAL CHARAC-TERISTICS	Dielectric Constant (Spec. Ind. Cap.)	4.0	4.0	4.0	4.5	4.5	4.5	....
	Ins. Res. (K)	50,000	7,500	40,000	30,000	30,000	20,000	100
	Dielec. strength in volts per mil	450	350	300	400	400	350	200
PHYSICAL PROPERTIES	Tensile Strength in lbs. per sq. in.	2000	600	700	950	1000 Synth. 1500 Nat.	1000 Synth. 1800 Nat.	2000
	Elongation in 2"	450%	300%	400%	450%	500%	500%	500%
	Permanent set	1/4"	1/2"	3/8"	3/8"	1/4"	1/4"	1/4"
ACCELERATED AGING	Type of test	Geer Oven	Geer Oven	Geer Oven	Oxygen Bomb	Geer Oven	Oxygen Bomb	Geer Oven
	Temperature	70°C	80°C	100°C	80°C	70°C	80°C	80°C
	Hours	288	168	672	168	504	336	160
	% Original Tensile Strength	70%	80%	80%	80%	85%	80%	90%
MOISTURE RESISTANCE	Gain in wt. after 7 days immersion at 70°C (Mg. per sq. in.)	25	....	20 or less	15 or less	35	35	30-60
	Capacity increase after 4 weeks immersion at room temperature	15%	15%	15%	10%	15%	15%	....
	Stability Factor 40-80 volts per mil 2 weeks at 50°C	.5%	1.5%	1.0%	.8%	2.0%	3.5%	....
SPECIAL PROPERTIES		High Voltage and Submarine use	Meets IPCEA ozone test	Withstands .03 conc. 10 hours	For hot and moist locations	General purpose rubber insulation	General purpose rubber insulation	Resistant to oil, flame and ozone

As the test data vary considerably with different sizes of conductor and thicknesses of insulation, these identical results can not be guaranteed throughout the whole range of sizes and voltage ratings. Some specific constructions will test higher and others will test lower than the listed values. However, the above table indicates in general what may be expected of these compounds.

AMERICAN STEEL & WIRE COMPANY

to fit your *Special* needs

• Voltage, Temperature, Oil, Moisture, Abrasion, Ozone, Sunlight. Each of these operating conditions has a bearing on the choice of the *special* rubber-insulated cable which will give maximum trouble-free service. But the selection of the proper cable is made extra difficult by the fact that many different compounds of natural and synthetic rubber are used for electric cable insulation.

To simplify this problem, use the convenient check list below. It shows the standard type of Amerclad Cable that gives best service under particular operating conditions. And if you want thorough, detailed specifications, refer to the complete chart at the left.

Under ground or under water — specify **AMARINE-40**

high voltage service for submarine power cables and for general use above 7500 volts.

Ozone-resistance — specify **AMERZONE**

plus resistance to heat and moisture.

Hot or damp locations — specify **AMARINE-RWS**

low water absorption and excellent heat resistance.

General use — specify **AMERITE**

performance type compound, use where copper temperature will not exceed 60° C. (140° F).

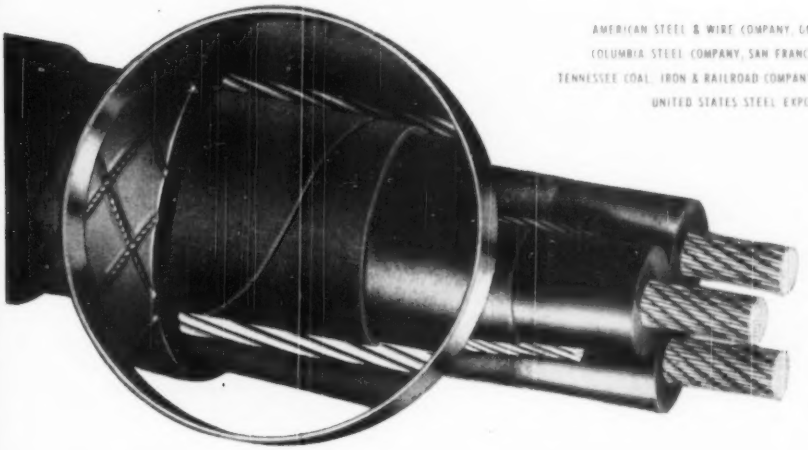
Heat-resistant, general use — specify **AMPEROX**

for copper temperatures up to 75° C. (167° F) and voltages up to 7500.

Oil, flame, sunlight and age resistance — specify **AMERPRENE**

extra-flexible jacket, high Neoprene content.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES, CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM, SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



The accompanying illustration shows one of our standard constructions with Amerite Performance Grade around conductors; conducting rubber tape for non-metallic shielding when rated over 2000 volts. The cover is of Amerprene, a tough, hard-wearing compound, containing a high percentage of Neoprene. These compounds can be combined in cable constructions to fit the requirements of industrial, mining, and submarine installations.

USS

AMERCLAD CABLES

UNITED STATES STEEL

FOR SAFETY'S SAKE . . . USE CONDUIT *(Full Weight Rigid Steel)*

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon, Alloy and Yoloy Steel

General Offices — Youngstown 1, Ohio

Export Office - 500 Fifth Avenue, New York

CONDUIT - HOT AND COLD FINISHED CARBON AND ALLOY BARS - PIPE AND TUBULAR PRODUCTS - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - RODS - SHEETS - PLATES - RAILROAD TRACK SPIKES.

MORE POWER THROUGH WIRES BY U. S. RUBBER

SMALLER DIAMETER CONTROL CABLES INSULATED WITH Laytex*

NO OTHER CONTROL CABLE HAS Laytex INSULATION

Great news for the power industry! U. S. Rubber Control Cables present unique advantages—thanks to Laytex (90% pure rubber) insulation.

First, Laytex insulation means fully insulated conductors of smaller diameter resulting in smaller diameter cables—this permits *more cables in a given space.* By U. S. Rubber's dip process, the conductors are perfectly centered in the insulation, eliminating any chance of thin spots.

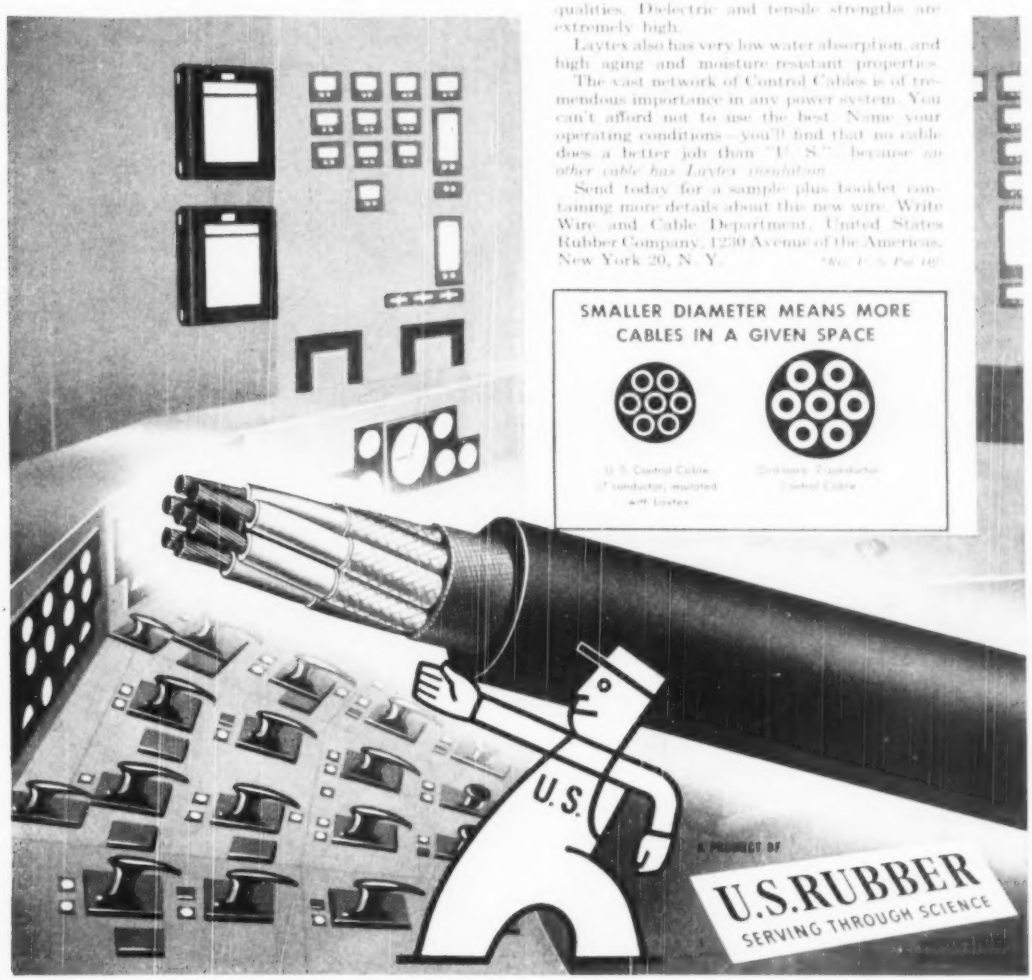
Next, Laytex provides a more efficient and trustworthy insulation, unexcelled in electrical qualities. Dielectric and tensile strengths are extremely high.

Laytex also has very low water absorption, and high aging and moisture resistant properties.

The vast network of Control Cables is of tremendous importance in any power system. You can't afford not to use the best. Name your operating conditions—you'll find that no cable does a better job than "U. S."—because *no other cable has Laytex insulation.*

Send today for a sample plus booklet containing more details about this new wire. Write Wire and Cable Department, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.

*Reg. U. S. Pat. Off.



SOLVE IT WITH

HAZARD WATERTITE!

Hazard Watertite offers you a long-lived insulation with high dielectric strength that's effectively impervious to moisture. It's tough, elastic and free stripping. In wet locations, Hazard Watertite speeds and simplifies installation as no protective lead sheath with costly, time-consuming joints and terminals is needed. Since its earliest development as Submarine insulation for non-metallic sheathed underground cables, Watertite has a history of over 20 years in trouble-free service. Approved under NEC as Type RW for use in wet locations without metallic sheath, or Type RH for use at a maximum conductor temperature of 75C.

YOUR ANSWER IS

HAZARD PERFORMITE!

Specially developed to withstand the deteriorating effects of heat on insulation, Hazard Performite gives you an ideal answer to this difficult installation problem. Since 1931, this Hazard insulation has been used extensively for all kinds of general interior circuits, branch feeders, portable cables, municipal cables and other special installations demanding *long, trouble-free service life and exceptional heat resistance.* Performite is long-aging, non-corrosive, free-stripping, mechanically and electrically stable. Approved under NEC as Type RH for use at a maximum conductor temperature of 75C.

BE SAFE WITH

HAZARD KEYSTONE!

Hazard Keystone, field-proved over the past 50 years, is an oil-base insulation for high-voltage installation. *It combines in one compound* – resistance to ozone, corona, moisture, heat, sunlight, mildew, acids and chemicals. Your assurance of long, trouble-free service from aerial, underground or interior cable installations with Hazard Keystone insulation is backed by its long, successful service record as well as thorough factory testing which includes both a-c and d-c tests for service over 5000 volts.

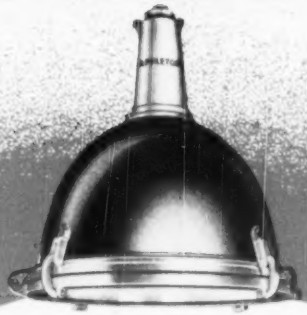
THE RIGHT WIRE OR CABLE FOR ANY JOB STARTS WITH THE RIGHT INSULATION...

There's a Preferred Hazard Insulation for Every Job

For full information about Hazard Watertite insulation write for Bulletin H-422; H-403A gives all the facts about Keystone and H-431 about Performite or ask your Hazard representative. Hazard Insulated Wire Works, Division of The Okonite Company, Wilkes-Barre, Pa.

HAZARD Insulated wires and cables for every electrical use

8045



Industrialite High Mounting Fixture

GOOD LIGHT...

Industry's Most Essential Production Tool!

Standard Dome Reflector

The Stocklite for Stock Rooms

● When you plan industrial lighting with Appleton Equipment the result is a finely coordinated system that paves the way for top worker efficiency, better production. That's because Appleton fixtures are scientifically designed to provide the *right light*, without uncomfortable glare, troublesome contrast or shadow. Products of nearly half a century of experience, expert engineering and unequalled manufacturing facilities, Appleton Fixtures provide maximum illuminating efficiency at minimum installation, service and operating expense. Appleton Lighting Fixtures are available in the exact type and size for every industrial requirement—including hazardous locations—whether indoors or out. Appleton's skilled illuminating engineers are ready to help you solve your specific lighting problems. For the finest in lighting equipment, specify Appleton—Standard for Better Lighting.

APPLETON LIGHTING EQUIPMENT

The EFU—First and Still Finest Explosion-Proof Lighting Fixture

Standlite — for Filling Stations, Parking Areas

SOLD THROUGH ELECTRICAL WHOLESALERS

APPLETON ELECTRIC COMPANY

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Branch Offices: NEW YORK, 50 Church Street • DETROIT, 3049 E. Grand Blvd. • CLEVELAND, 1816 Euclid Avenue • SAN FRANCISCO, 655 Mission Street • ST. LOUIS, 727 Frisco Bldg. • LOS ANGELES, 100 North Santa Fe Avenue • ATLANTA, 724 Southwood N. E. • BIRMINGHAM, 429 Brown Marx Bldg. • MINNEAPOLIS, 305 Fifth St., S. • PITTSBURGH, 414 Bessemer Bldg. • BALTIMORE, 100 East Pleasant Street • BOSTON, 10 High Street • DENVER, 1921 Blake Street • PHILADELPHIA, 1517 Cherry Street • CINCINNATI, 626 Broadway • HOUSTON, 738 M. & M. Bldg. • HAVANA, Cuba, Maloton No. 9

Resident Representatives: Dallas, Indianapolis, Kansas City, Orlando, Milwaukee, New Orleans, Seattle

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APPLETON

CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES • EXPLOSION-PROOF FITTINGS • REELITES

Stanley Electric Mfg. Co.

of

PHILADELPHIA, PENNSYLVANIA

manufacturers of a complete line of fluorescent, slimline and recessed fixtures

Announce

the opening of a new plant at

STEPHENS & HUMPHREY STREET, S. W.,

ATLANTA, GEORGIA

This plant will serve the South-eastern area and will be in production by May 1.

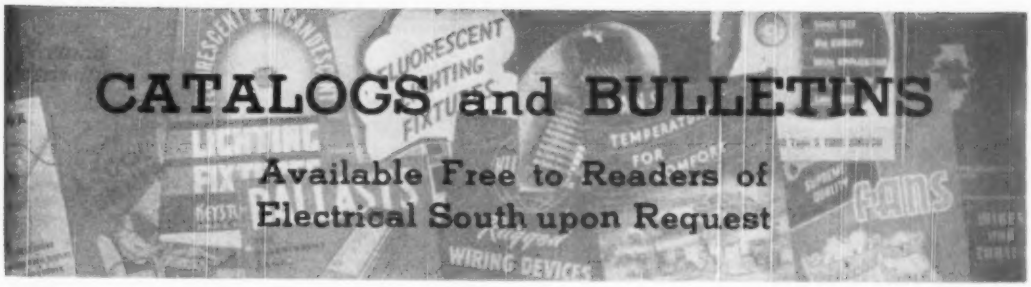
Write for catalog and price sheets.

STANLEY

ELECTRIC MFG. CO.

1234 Carpenter St., Philadelphia, Pa.

Stephens & Humphrey St., Atlanta, Ga.



CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 11, 69 and 71)

1000—Electrical Apparatus. The Trumbull Electric Mfg. Co., Plainville, Conn., has recently issued a condensed general catalog, "Trumbullist," which gives complete information on electrical control apparatus.

1002—Infrared Lamps. An 8-page folder "Drying Problems Made Easy," listing the advantages of the Durherm Carbon Lamps is available from the North American Electric Lamp Company, 1041 Tyler St., St. Louis, Mo. This folder includes a complete description of how Infrared Radiant Energy with Nalco Durherm Carbon Lamps provides fast, effective heat.

1004—Paragon Timers. A folder of up-to-date bulletins on available timers and their prices is offered by the Paragon Electric Company, Two Rivers, Wisconsin, manufacturers of electrical equipment. Such items as industrial timers, self-lubricating time switches, and many others are described and illustrated in this folder.

1006—Lighting Equipment. This revised 8-page condensed catalog, No. 945, describes the company's line of engineered lighting and control equipment for schools, theaters, hospitals, churches, and stores, etc. Specifications, engineering details and list prices are included. This catalog is available from Hub Electric Co., Department "ES," 2219 West Grand Ave., Chicago 12, Illinois.

1008—Electrical Equipment. The latest edition of the Federal-log has just been issued by Federal Electric Products Co., 60 Fitts St., Newark 5, N. J. This profusely illustrated catalog contains complete details of Federal's newest motor controls, safety switches, service equipment, circuit breakers, panelboards, switchboards, and busduct.

1010—Electric Motor Parts. A 112-page illustrated catalog of electric motor and controller parts is now available from The Reading Electric Company, Inc., 102 Park Row, New York 18, N. Y. This bulletin lists everything used in the electric motor repair shop.

1012—Fluorescent Lighting. Smithcraft Lighting Division, Chelsea 50, Mass., has just issued an interesting series of specification sheets, each portraying a single Smithcraft fluorescent fixture and providing pertinent technical data to assist engineers, jobbers, contractors and purchasing agents. These sheets are available upon request.

1014—Time Switch. Sangamo Electric Co., Springfield, Ill., offers their 4-page Bulletin 1056 fully describing the new, exceptionally small Type S Time Switch.

1016—Electrical Devices. Catalog No. 38, issued by the Efficiency Electric Co., East Palestine, Ohio, contains a listing of the electrical devices for conduit, wire, and cable suspension manufactured by this company.

1018—Lighting Fixtures. A complete line of decorative residential lighting fixtures as well as an outstanding commercial fluorescent series are described in Catalogs No. 448 (Residential) and No. XF-48 (Commercial). Copies may be obtained from John C. Virden Co., 8905-6103 Longridge Ave., Cleveland, Ohio.

1020—Electrical Maintenance. Available immediately is a new 48-page reference and instruction booklet issued by the Anaconda Wire and Cable Co., 25 Broadway, New York 4, N. Y. Entitled "Wire Ahead," this book covers a variety of problems encountered in electrical system maintenance.

1022—Wiring Connectors. A complete new catalog on various new wiring connectors has been issued by the Leper Blackburn Products Corp., St. Louis. The catalog also contains much detailed information not heretofore available to users.

1024—Cords and Cables. The Simplex Wire & Cable Co. has just issued an attractive 68-page catalog giving descriptions of the Simplex Lines portable cords and cables. Complete information on splicing is also included, as well as a pictorial section on applications. It may be obtained from 79 Sidney St., Cambridge 39, Mass.

1026—Electrical Specialties. A catalog, No. 43, showing their complete line of electrical specialties is available from McGill Mfg. Co., Inc., Box 650, Valparaiso, Ind. Included is descriptive data on the many sizes and types of Leviolet switches and McGill portable and vaporproof lamp guards.

1028—Porcelain Insulators. A loose-leaf catalog of porcelain insulators and pole line hardware is available from Illinois Ele-

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ELECTRICAL SOUTH,
806 Peachtree St., NE
Atlanta 5, Ga.

April, 1950

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name ..... **Title** .....

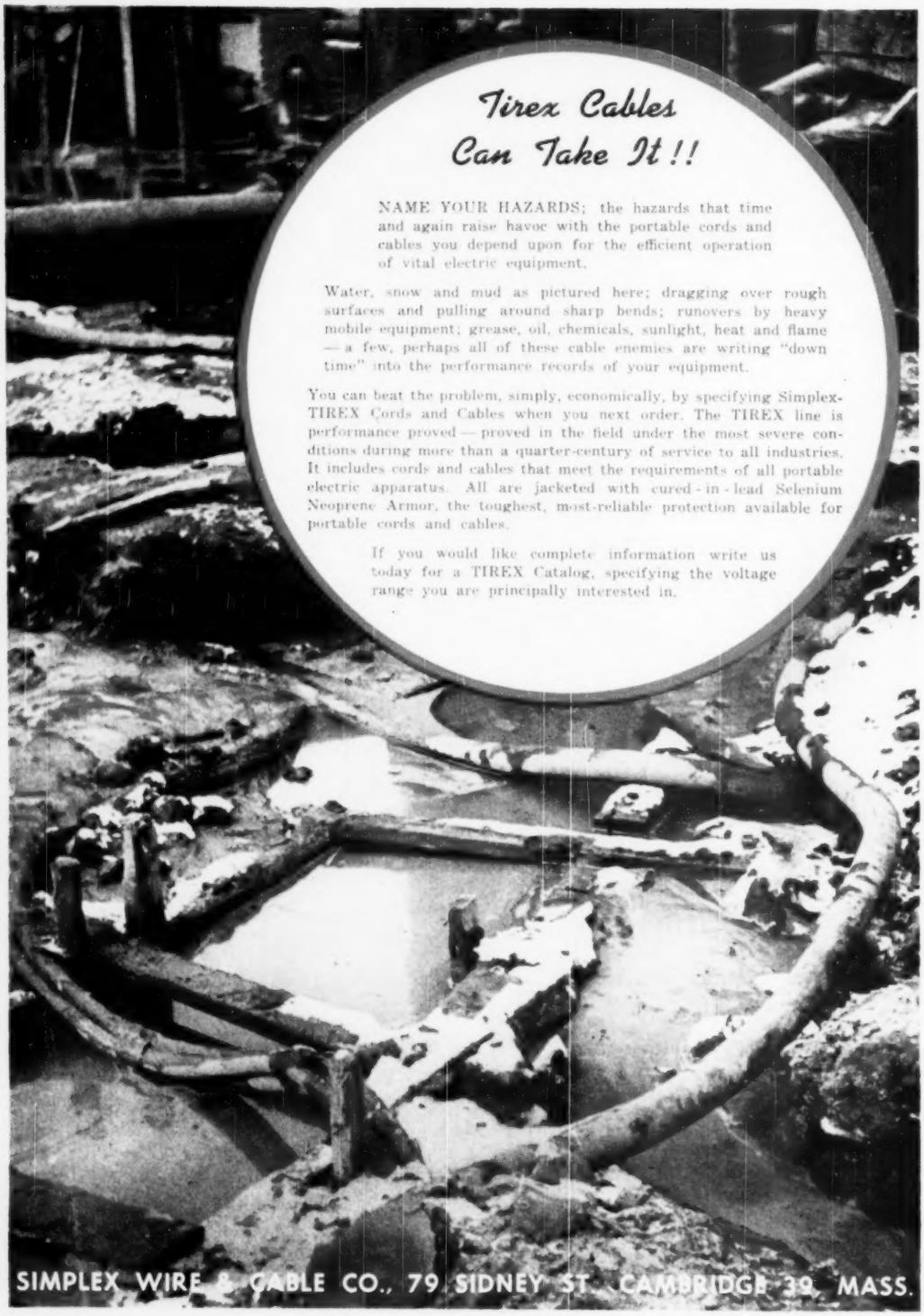
Company .....

Address .....

City & State .....

Circle numbers below. Bulletins and catalogs will be mailed promptly.

1000	1002	1004	1006	1008
1010	1012	1014	1016	1018
1020	1022	1024	1026	1028
1030	1032	1034	1036	1038
1040	1042	1044	1046	1048
1050	1052	1054	1056	1058
1060	1062	1064	1066	1068
1070	1072	1074	1076	1078
1080	1082			


Tirex Cables
Can Take It!!
NAME YOUR HAZARDS; the hazards that time and again raise havoc with the portable cords and cables you depend upon for the efficient operation of vital electric equipment.
Water, snow and mud as pictured here; dragging over rough surfaces and pulling around sharp bends; runovers by heavy mobile equipment; grease, oil, chemicals, sunlight, heat and flame — a few, perhaps all of these cable enemies are writing "down time" into the performance records of your equipment.
You can beat the problem, simply, economically, by specifying Simplex-TIREX Cords and Cables when you next order. The TIREX line is performance proved — proved in the field under the most severe conditions during more than a quarter-century of service to all industries. It includes cords and cables that meet the requirements of all portable electric apparatus. All are jacketed with cured-in-lead Selenium Neoprene Armor, the toughest, most-reliable protection available for portable cords and cables.
If you would like complete information write us today for a TIREX Catalog, specifying the voltage range you are principally interested in.
SIMPLEX WIRE & CABLE CO., 79 SIDNEY ST., CAMBRIDGE 39, MASS.

the Porcelain Co., Macomb, Illinois. In addition to the pages of product specifications, the catalog contains a special section of useful tables.

1030—Condensed Lighting Catalog. This 8-page descriptive bulletin issued by Pittsburgh Reflector Co., 450 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of fluorescent and incandescent lighting equipment. Each item is fully illustrated and cataloged, and many are accompanied by installation drawings.

1032—Receptacles, Plugs, and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin No. H.L.4-46, describing the new Ever-Lok receptacles, plugs and cord connections for 30 amperes, 440 volts, a.c. Typical uses are for heavy duty industrial purposes.

1034—Building Wire. A fully illustrated 48-page booklet called "Hazard Building Wires" is now available from the Hazard Insulated Wire Works Division of The Okonite Co. The manual contains complete engineering information on the many types of wire and cable required by the building industry. Tables showing dimensions and weights of all cable constructions are included.

1036—Recessed Troffers. Catalog No. T-48 contains 36 pages illustrating all types of one, two, and three light 40-watt fluorescent, deep and shallow type troffers. Included are incandescent Highliters for accent lighting between runs with complete photometric data, dimensions, weights and their flexibility of application. Available from the Ender Mfg. Co., 260 West St., New York, N. Y.

1038—Upright Scaffolds. A descriptive folder is available describing the setting up of a 15-foot aluminum alloy mobile unit by one man in three minutes and a 45-foot unit in 15 minutes. May be obtained from Up-Right Scaffolds, 1013 Purdee Street, Berkeley, California.

1040—Lighting Fixtures. A colorful, well illustrated, 32-page catalog has been made available, featuring industrial, commercial, and residential lighting with technical description and engineering data. The catalog, No. 45, may be obtained from the Keystone Mfg. Co., 2228-36 E. Tioga St., Philadelphia 34, Pa.

1042—Wire and Cable. An illustrated booklet containing descriptions of thermoplastic building wires, rubber-insulated and leaded building wires and cables, Flamenol cords, rubber cords, Neoprene cords, and many other items has been published by the General Electric Co., Bridgeport 2, Conn.

1044—Cords and Cables. New illustrated catalog sheets and descriptive pamphlets showing advantages of Brimco 60 Neoprene cords and cables have been made available by Western Insulated Wire Co., 1001 East 62nd St., Los Angeles 1, Cal.

1046—Fluorescent Fixtures. The varied types of fixtures and their wide applications are described and illustrated in a colorful catalog released by Southern Lighting Mfg. Co., Orlando, Fla. Lighting for stores, offices, industry, and schoolroom is discussed thoroughly with technical information and a price list included.

1048—Plug-In Strip. A complete revision of Catalog CF-7 has recently been published by National Electric Products Corp., Pittsburgh, Pa. This 8-page, illustrated brochure pictures the 3 ft. and 6 ft. standard lengths of the redesigned multi-outlet branch circuit assembly. Several pages are devoted to detailed instructions for cutting the Plug-In strip on the job.

1050—Magnetic Starters. This 8-page bulletin (No. 4110) published by the Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y., gives complete information concerning application, size, classification, construction features, enclosure dimensions and other important data pertaining to the company's newly designed a.c. motor starters.

1052—Louvered Ceilings. Included in this 8-page folder is full information, explaining and illustrating the special construction and design advantages of the Neo-Ray louvered ceilings, manufactured by Neo-Ray Products, Inc., 515 East 22nd St., New York, N. Y.

1054—Fluorescent Fixtures. Catalog No. 48 illustrates the commercial, industrial and residential designs offered by the Kirkline Co. Featured are troffers, glass and louver type, recessed incandescent units, and many others. The catalog is available from the Kirkline Co., 2480 E. 22nd St., Cleveland 15, Ohio.

1056—Lighting Products. Forty-one pages of description, specifications, and illustrations of Spero's five lines of electrical products are included in a newly issued catalog. The five lines include fluorescent fixtures, reflectors, vapor proof units, flood lights, and materials for electrical construction. The booklet is available from the Spero Electric Corp., 18222 Lanken Ave., Cleveland 19, Ohio.

1058—Conductor Fittings. A complete catalog, illustrated and listing prices, has been issued by Penn-Union Electric Corp., Erie, Pa. Described is the company's complete line, including a wide variety of service connectors, terminals, tees, and taps, also many other types of conductor fittings.

1060—Electrical Materials. Three informative bulletins, No. 1 entitled Lightning Arresters Data, No. 2, Wire Stringing Tool Data, and No. 3, Hub-Rak Data on Secondary Distribution, have been released by Hubbard and Co., Pittsburgh 1, Pa.

1062—Fuses. Listed by Underwriters' Laboratories, the Pierce renewable fuses are fully described in an illustrated folder which may be obtained from Pierce Renewable Fuses, Inc., 211-219 Hertel Ave., Buffalo 7, N. Y.

1064—Lighting Plans. Set of 48 printed plans showing diagrams and complete specifications for flood lighting, sports arenas, courts, playing fields and stadia as well as buildings, displays, etc. Particularly valuable to planning boards and contractors. Write S & M Lamp Co., 119 W. 36th Place, Los Angeles 7, Calif.

1066—Residential Fixtures. Brasner Products, Inc., Dept. ES, Port Chester, N. Y., announces the publication of a catalog featuring a line of residential indoor and outdoor fixtures. The catalog may be obtained by writing to the manufacturer.

1068—Wire and Cable. Rome Cable Corporation, Rome, N. Y., has just published a new "Bare and Weatherproof Wire and Cable" catalog, No. 22. By word and picture the story of Rome wire and cable including specifications and a technical section, is brought to the reader.

1070—Fluorescent Lamp Ballasts. General Electric's Specialty Transformer and Ballast Divisions, Schenectady 5, N. Y., have announced as available a new 20-page illustrated bulletin. The bulletin gives complete information on the installation, operation and testing of ballasts for fluorescent lamps. Write General Electric for Bulletin GET-922-B.

1072—Fluorescent Fixtures. An illustrated folder describing Rite-Lite Ceiling Fixtures is now available from the Standard Rite-Lite Co., Brighton, Pa. Nine Rite-Lite models are described.

1074—Carbon Brushes. A new 112-page illustrated catalog devoted exclusively to fractional h.p. motor brushes used on small appliances, refrigerators, portable tools, vacuum cleaners, and fans, is now available from the Southern Carbon Brush Co., Inc., P. O. Box 1710, Birmingham 1, Ala. This is a handy reference book for the electric motor repair shop.

1076—Modular Lighting. A 20-page booklet containing interesting and useful information about the "modular system" of lighting can be obtained by writing to the Mitchell Manufacturing Co., 2825 Clybourn Ave., Chicago 14, Ill.

1078—Electrical Fittings & Devices. This is a 10-page catalog covering solderless connectors, cable and conduit fittings, and wiring devices, announced by Buchanan Electrical Products Corp., 1290 Central Ave., Hillside, N. J. It contains complete data on "Splice-Caps" and "Termend" lugs for wire splicing and terminating, box connectors for metallic and non-metallic sheathed cable, both plain and insulated conduit bushings, conduit locknuts, knockout plugs, terminal blocks, attachment plugs, fuse pullers, etc. Suitable illustrations, dimensional data and application instructions are included.

1080—Farm Lighting Equipment. Bulletin No. 122-50, available from Steber Manufacturing Co., Broadway, Ill., lists a new line of Steberlite Lampholders, Yardlights, Hammerlites, and Covrlites.

1082—Lighting Equipment. Just off the press is Catalog No. 50, available from the F. W. Wakefield Brass Co., Vermilion, Ohio. The catalog covers full engineering data on fluorescent equipment in luminous, indirect and direct-indirect for both standard and Slimline lamps.

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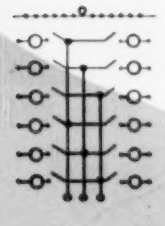

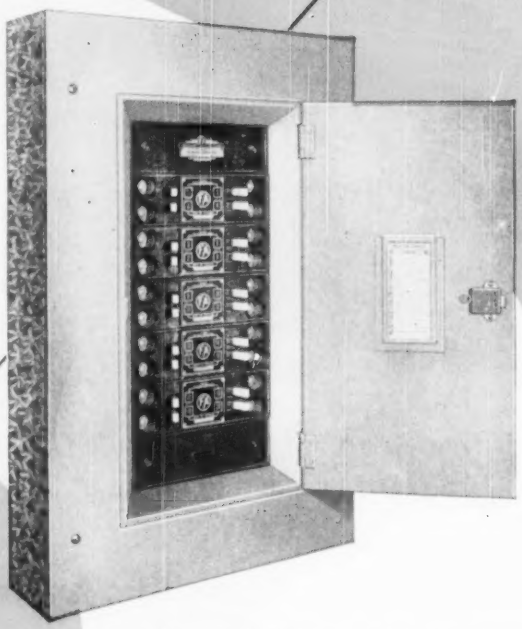

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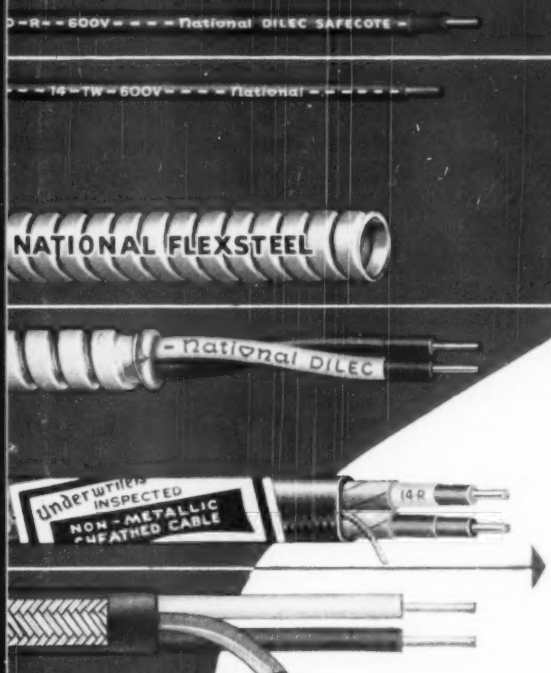

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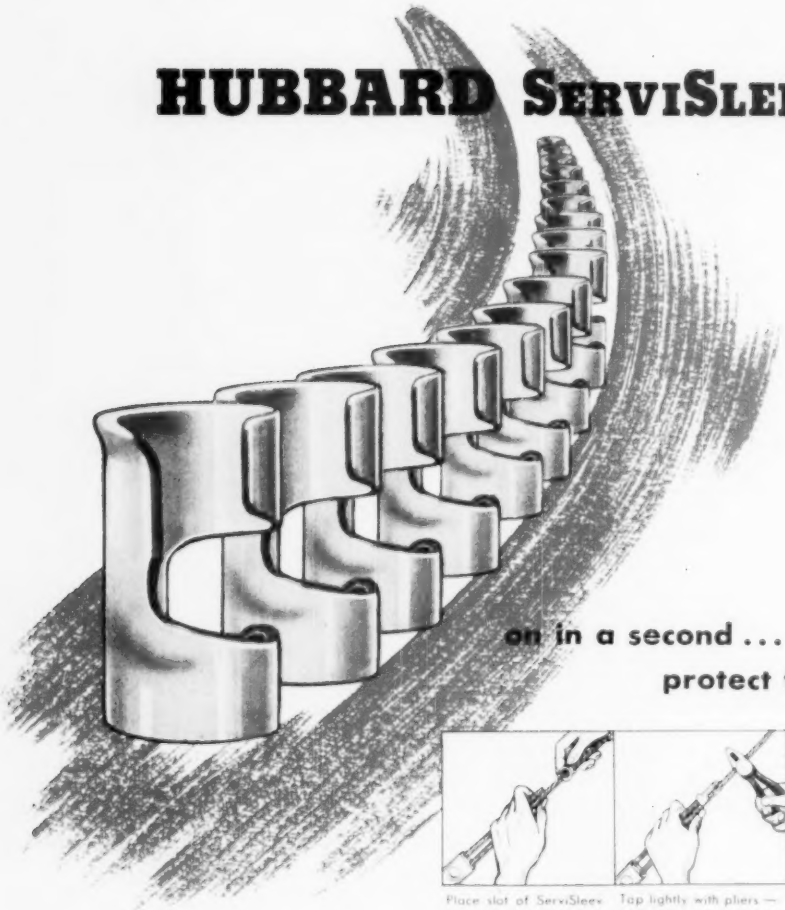

Place slot of ServiSleev over strand, turning bell mouth toward clamp.

Tap lightly with pliers — ServiSleev fits snugly over free strand end.

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7452	1/4	1 3/8	3.4
7453	5/16	1 1/2	5.5
7454	3/8	1 3/4	7.8
7455	7/16	2	11.0
7456	1/2	2 1/4	14.3

The ServiSleev is quickly slipped over the guy wire and the belled end turned toward the clamp. A few light taps with pliers or wrench drive it over the loose end of the strand.

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VOL. 30 APRIL 1950 NO. 4

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Flexible Lighting

Modular principle applied to lighting fixtures and acoustical ceiling material permits varied effects from standardized equipment

by Grier Loury

When Macy's Kansas City, an impressive, departmentalized, merchandising unit, made its formal bow last October, it was the general consensus of opinion among mid-American mercantile circles that the lighting installation in the 7-story structure, remodeled at an outlay of ten million dollars, was the outstanding feature of the layout, resplendent with distinctive architectural innovations.

Designed to provide the ultimate in shopping facilities, the 435,000 square-foot, under-one-roof shopping center incorporates such spectacular improvements as new-type, high-speed escalators and elevators; the largest single commercial installation of "dry" acoustical ceiling in the country, and an expansive brick-and-tile front on Kansas City's famous Petticoat Lane, described as the Middle West's "largest windowless building."

Lighting plans for this imposing structure were evolved only after preliminary spadework and meticulous study by a panel that included Kivett & Myers, architects, John Kelley and J. H. Mackay, of the Mackay Electrical Company, contractors; and Wm. L. Cassel, mechanical engineer. By pooling ideas and working out engineering problems as a unit, this panel of experts turned in an outstanding performance.

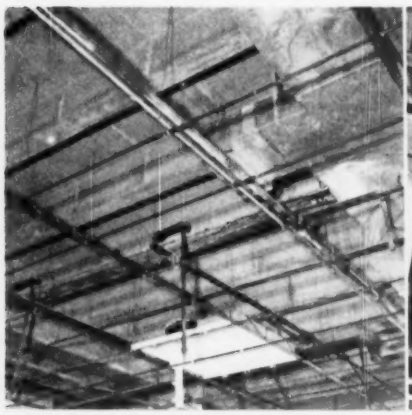
Speed was an important factor. The big store, although no slap-dash affair, was completed in fifteen months; the builder and twenty-two sub-contractors were said to have borrowed an old military maxim—"the difficult we do immediately; the impossible takes a little longer." At the peak, there were 900 men working on the job.

Adding to the complexities for the electrical contractor, the architects and the engineer, was the fact that all departments of the store were kept in constant operation while lighting fixtures were installed and more than sixty-eight miles of conduit and 217 miles of wire threaded through the establishment.

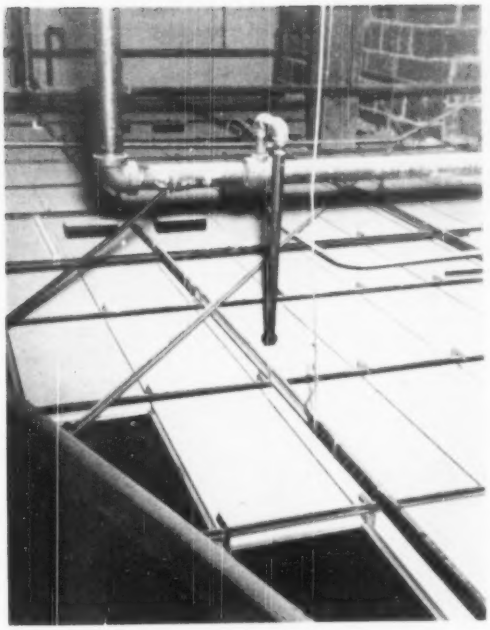
A million dollar electrical installation, the Macy job was awarded on a non-contractual basis to the Mackay Electric Company simply because of the company's sound reputation for excellent electrical work in other major buildings in the area. Electrical installations in buildings such as the K. C. Quartermaster Depot, the Sunshine Biscuit company, the Union National Bank, and the Olathe Naval Base, bear the Mackay stamp.

But the Macy job was unusual even for J. H. Mackay, president of the company, and John Kelley, his top aide. No recent job in this area equals it from several standpoints.

"The initial ingredient the job demanded was speed," said John Kelley. "Our three hundred electricians were forced to work at top speed to get the conduits in before the cement was poured. Then the job embodied a number of intricate equipment re-

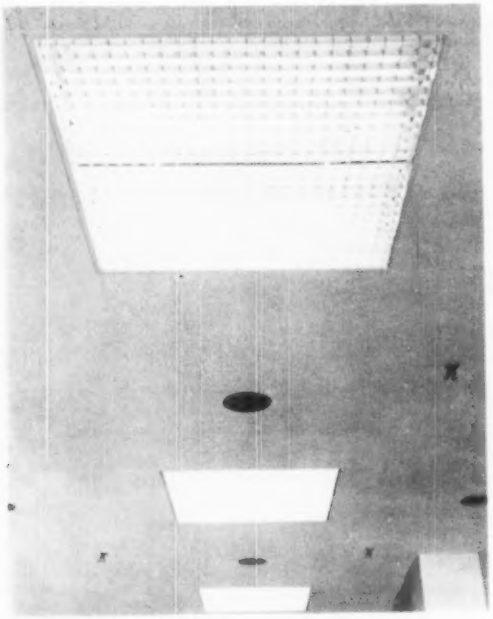


One of the principal factors in the unusual flexibility obtained in the lighting installation in the Macy Kansas City store is the supporting gridwork suspended from the ceiling providing openings of 2 ft. by 4 ft. A recessed fixture of the same size made it possible to create a wide range of lighting effects. The same grid supports the Acoustone ceiling, installed in units measuring 1 ft. by 2 ft. All fixtures have flexible leads and are connected by being plugged into outlets provided at intervals above the false ceiling. The fixtures are easily relocated.

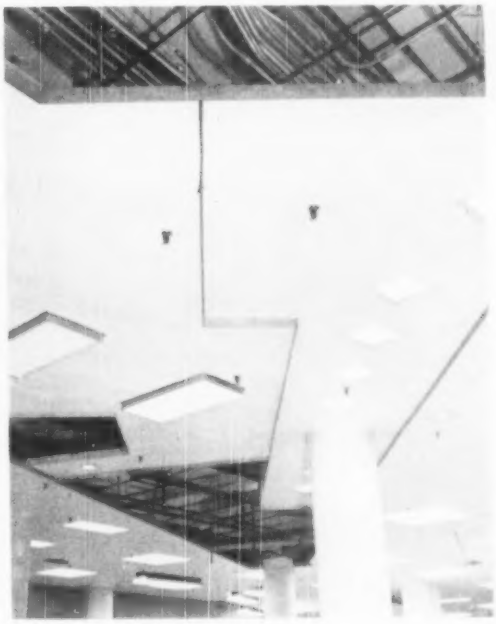


This close up view of the grid used to support both the Acoustone ceiling and the lighting fixtures shows details of fabrication and support for ceiling units.

The acoustical ceiling units measure 1 foot by 2 feet. They are held in place by clips in each corner. Both ceiling units and fixtures can be rearranged easily.



This section of a portion of the ceiling shows finished appearance of lighting units arranged in a symmetrical pattern. Two fixtures together are 4 feet by 4 feet.



A wide range of light patterns are possible to fit specific store floor plans. An important feature is the ease with which arrangement can be changed as need arises.

stallations, which we had to wire, including a public address system, a silent call system, burglary alarm, temperature indicators, elevator and air conditioning units. The air conditioning unit, a 1200-ton unit, required installing and connecting motors and pressure and control switches which are operated from the basement.

"Four power switchboards in operation in the building contrast with the ordinary single switchboard set up," he continued.

"In case of fire at the store, the air conditioning fans automatically shut off so as not to create a draft on the blaze, other fans go into action, and the fire pumps automatically click on.

"Electrically, it was an outstanding job, and, in dollars and cents, even surpassed the electric installation in Kansas City's huge Municipal Auditorium, which we also did."

Objectives Sought

In blue-printing store lighting, the architects, engineer and electrical contractors kept these general objectives in mind:

1. A flexible system so arranged that in case of layout changes, fixtures could be smoothly and swiftly re-arranged to conform with the setting.

2. Proper illumination for each particular type of merchandise. In short, effective and even illumination designed to accentuate the quality and styling of the products of each department.

3. Keeping installation and maintenance expenditures to a bare minimum by standardizing the fixtures.

"For years, department store managements have yearned for a lighting system with such flexibility that it could be speedily transformed to correspond with change-overs in store layouts," said J. H. Mackay.

"In the past," he continued, "the usual procedure was to tailor an overall lighting pattern which produced general illumination for all areas. Among the objections to this plan was that all merchandise had the same quality and quantity of illumination. This unscientific, hit-and-miss system resulted in proper lighting for some areas but highly unsuitable for others.

"Some establishments are fortunate enough to be able to supplement this over-all illumination with specialty lighting in an effort to give particular areas proper lighting. However, since these specialty fixtures were mounted in a plaster ceiling, the expense is terrific when it is necessary to re-arrange them in cases where departments are relocated."

The solution to this problem represented a spectacular piece of work. It involved, first of all, a flexible ceiling which permits easy removal of lighting fixtures when departments are shifted.

Experiments were conducted with numerous types of ceiling materials before it was concluded that a grid setup incorporating a standard 3/4-inch and one-and-one-half-inch furring channels to support an "acoustone" tile ceiling, was the most expedient. The channels form a 2-foot by 4-foot grid on which are clipped the 1-foot by 2-foot acoustone panels. Lighting fixtures were then designed to fit the 2x4-foot grid opening, and these served as the base fixture for the entire store.

Rearranging Fixtures

"So simple is the matter of removing and changing the fixtures, a 4-year-old moppet could probably do it," declares John Kelley. "The complete performance consists of lifting the louver off, removing the skirts with a screw driver—the only step in which a tool of any kind is required—taking the troffer unit off, sliding it over and pushing it up, and unhooking the wire from the electrical outlet which is connected to the lighting fixture by a flexible conduit.

"To remove ceiling tiles, you merely dislodge the clips, remove the clips and the splines and take the tile units down. The unit can be reinstalled with the same tile, clips and spline."

The side-by-side 2x4-foot fixtures can be used to create a 4x4-foot unit when there is adequate space, or in smaller areas, can be combined with a 2x4-foot fixture.

"The 2x4-foot fixture includes three 40-watt fluorescent tubes mounted in a metal troffer and connected to a 3-tube ballast," explained Kelley. "Watchdog starters eliminate blinking during store hours which may be caused by defective tubes. The 2x4-foot fixture is equipped with a hinged type egg-crate louver which shields tubes with a 30-degree cut-off.

"The 2x4 fixture is designed so that a host of lighting combinations can be improvised with this basic unit," he added, pointedly. "For ex-

(Continued on page 53)

In some store areas such as the drug department shown at the left, the standard 2 ft. by 4 ft. lighting fixture has been used in tandem to form 12 foot or longer units. This flexibility was one of the outstanding features of the installation. Unusual decorative effects have been achieved in many departments. At right is the candy department where 36-inch long candy-stick fixtures, equipped with accent incandescent lamps, help identify the department.

In smaller departments, the flexibility of the system enables designer to get exactly the right level of intensity for type of merchandise displayed.

General illumination provided by the standard type of eggcrate fluorescent fixture is teamed up in many areas with accent units as shown here. The latter are adjustable to beam light at special displays.

Standardizing on a few types of fixtures provides considerable in economy of replacements, rearrangements, and so on, yet does not limit the variety of effects that can be obtained as shown in these random views of various departments of the store.

Special lighting fixtures supplement the general illumination. These special bracket lamps in the Tea Room have open tops and give a cozy effect.

An excellent example of the even distribution of lighting in the store is shown in this view of one of the twin entrances. The series of accent incandescent fixtures forms a definite, uniform pattern of light.

Mobile Shop

by L. H. Houck

ALMOST EVERYBODY knows which jobs are being done by White Crane, for twenty years one of the leading electrical contractors, in Eldon, Mo., and throughout the Bagnell Dam area.

This is true because Crane moves his portable trailer shop to the job and the advertising on the sides works for him from the beginning of the job until the wiring has been completed—it works on Sundays and holidays when new building projects get the largest number of interested visitors.

This portable shop and advertising trailer has been responsible for many inquiries which subsequently resulted in some of his best jobs.

But doing a good job of advertising and promotion is but one asset of the trailer shop, according to L. C. Crane, who is the owner of the White Crane Electric Company. It eliminates many extra costs on a job such as frequent return trips to the main shop for supplies, tools, or instructions.

Result of Experiment

The trailer shop now in use is the result of much experimenting. Crane built his first trailer to use as a portable shop more than ten years ago. It was a small trailer but little bigger than a trailer tool box. He used it to store supplies on the job and for the larger tools.

In expanding the idea a few years later with a full sized trailer shop, he made a trailer which can be used as a shop, as a storage place for the material for the job on which it is located, and a safe place in which the workmen can leave their tools or company tools when the work day is ended. Under this system the electricians in charge of the job report directly to the job, usually in their own cars instead of to the main shop and of five of the firm.

When work is done for the day they lock up their supplies and tools and get in their own car and go directly home. This saves their time in reporting in and out through the main shop and gets them home quicker. For the company it saves considerably in truck use and gasoline which electricians use company trucks to keep a job going from the main shop.

It should be pointed out, Mr. Crane said, that the trailer shop idea does not eliminate the main shop and offices nor the use of small trucks for a lot of the jobs. The trailer shop saves the most money and increases the profits when it is used on the larger jobs—jobs where it can be spotted and remain two or three weeks or even longer.

Under this system Crane usually supervises the job and the materials needed are sent to the job when available and checked into the portable shop by the electrician in charge of the job.

On large jobs much of the material is ordered sent directly to the job from manufacturers and jobbers because they always have a safe place to store it. This saves on handling.

The present model of rolling shop is a two-wheeled semi-trailer. Each truck used by White Crane has a trailer hitch installed so that any truck can be used to move the trailer. The trailer is 15 feet long and about 6 feet wide. A permanently hinged steel front leg is used to support the trailer level when it has been unhooked from a truck and spotted.

Conduit is hooked or stored on top. Standard equipment includes three ladders—a 10-, 8-, and 6-foot. It contains a work bench and vise. It is wired for lights and power connections and may be plugged into the lines put up for use of the crafts on the job.

Tool equipment can be varied to suit the job but it is planned so that electric drills, saws, wire strippers, or any other time savers can be hooked up inside the trailer if desired. The tool list usually includes a pipe fitting machine and hydraulic benders. The point made here is that none of this equipment is permanently connected in the trailer because the value of the trailer consists in outfitting it to fit the job to be done.

Outfitted for Each Job

As Crane pointed out, the trailer might be spotted on an apartment job with electric kitchens in which all the wiring would be in conduit. Power equipment would then be included to do this kind of work.

The next job might be a housing project in which all the wiring might be Romex or Bx and the power equipment would not be needed. In such cases it would then be at the main shop or could be taken over for an industrial job where needed by one of the other trucks.

A contractor starting out to use the trailer shop idea may not find the road bordered with roses, Crane said, because a great many electricians he has found, do not like the idea.

"Most of the crews like to use the company truck method and run back and forth," Crane said, "and it is

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Adequate Wiring

Program of Sixth Wiring Conference features practical case studies and utility—contractor debate on causes of the "contractor problem"

A. H. Kessler, who served as general chairman of the Adequate Wiring Conference in St. Louis, is executive secretary of North Central Electrical Industries, and president of the International Association of Electrical Leagues.

One hundred and seventy delegates attended the Sixth Annual Wiring Conference in St. Louis on February 16 and 17. The number exceeded last year's record of 123 by 47. The conferees represented utilities, electrical leagues, contractors, dealers, wholesalers and manufacturers. Also present were several members of the building industry and a home owner who took the platform to testify to the advantages of living in an adequately wired home.

The greatest number of registrants were from utilities and REA Co-ops in all sections of the country. The power suppliers sent a total of 79 representatives who are in charge of adequate wiring or residential sales promotion for their organizations. Electrical contractors sent the next largest number of delegates with 38 registrants. The contractor representatives included 9 NECA chapter managers and one from national headquarters representing a membership of thousands. Electrical leagues were represented by 17 local managers, manufacturers by 17 delegates, wholesalers by 9 and dealers by 2. Additional registrants included builders, architects, electrical inspectors and press representatives.

On-the-Spot Program Study

Two unusual features distinguished the conference from the annual meetings of former years. One of these was an on-the-spot study of a local wiring certification program. The other was a frank and open discussion of the so-called "contractor problem."

The St. Louis Adequate Wiring Program was the subject of the workshop study. It was selected for analysis since it is one of the broadest and most successful certification operations in the country, has won public approval, and enjoys the enthusiastic backing of local builders, architects, electrical contractors, wholesalers, manufacturers and the Union Electric Company of Missouri.

Carl Christine, secretary-manager of the St. Louis Electrical Board of Trade, presided over this portion of the conference. He introduced prominent local business and professional men, a home owner, and employees of the Board of Trade and Union Electric, who discussed what adequate home wiring means to the public and to the electrical industry. Participants on the St. Louis panel included: L. F. Barrett of the Barrett Electrical Supply Company who is chairman of the Board's Adequate Wiring Committee; A. E. Kadner, field representative, and D. E. Huey, draftsman for the Board of Trade. Union Electric personnel included F. V. Brown, residential service manager; Mrs. Yvonne Adams, field supervisor; W. G. Herron, advertising manager; and L. J. Paschal, building representative.

One of the Midwest's most successful development builders, the Schuermann Building & Realty Co., had its vice-president, J. M. Bogdanor, at the meeting to tell the delegates about the public's interest in electrical living and certified adequate wiring.

Other participants included J. B. Schaeffer, of the Carl J. Schaeffer Electric Co., who discussed what adequate wiring means to his customers and consequently to his electrical contracting business; Perle A. Dates, supervisor of electrical inspectors for St. Louis' Department of Public Utilities, who emphasized the benefits of AW to the public; architect Edward Lantz, and home owner L. B. Oeth, who testified to the advantages of enough wiring for modern electrical needs.

Following the discussion of the St. Louis Adequate Wiring Program, the delegates visited two new homes with certified wiring systems. One of these was constructed by the Schuermann Building and Realty Company and sold for $8,900 with an all-electric kitchen, the other was built by N. V. Bussmann and sold for $35,000 with all-electric kitchen and laundry.

Industry Problems Aired

The second unusual feature of the conference was a forum on "Who's to Blame for Contractor Inertia?" (See next page for further details.) The participants included H. L. Scott, head of his own electrical contracting firm in Corpus Christi and chairman of NECA's Business Development Committee; and F. E. Davis, of Commonwealth Services, who is a member of the National Bureau's Executive Committee and chairman of the EEI Wiring Committee.

The formal presentations as well as the rebuttals and open forum discussion served to bring out into the light a problem which has impeded the promotion of adequate wiring in many areas. It was the consensus that there are two types of contractors—those who are aggressive, progressive and interested in selling adequate, quality installations; and those

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Who's to Blame for

The Utility Viewpoint

by F. E. Davis

Chairman, Wiring Committee
Edison Electric Institute

My job in this "finger-pointing contest" is to say, "Not the utilities!" and then to prove it.

While finger-pointing is somewhat of a new role for me, and I say that with a little finger-crossing, and while at the moment I do not directly represent any utility company, nevertheless, I feel that my past experience and former close association with a rather large group of operating utility companies has qualified me to unequivocally say "*not the utilities!*" and I do say it with emphasis. Now, I must prove it, and I think I can.

There is a story of an old colored fellow who had a mule he was trying to sell to a prospective buyer. In the course of examination and showing, the mule walked head-on into a tree and just stood there with his head against the tree without moving either way.

The prospective customer said, "Why, Rastus, ain't that mule blind?"

Rastus replied, "Naw. He ain't blind; he jest don't give a da'n!"

Now, who was to blame for the mule's inertia? Rastus said it was the mule.

That, I think, illustrates several fundamentals in our business of electrical wiring, and all business for that matter. First and foremost, anyone in business must look out for himself. Then, if there should be recognized laggards in his own or related enterprises that seriously adversely affect the business in which he is engaged, it is not only a moral duty but just good common-sense judgment to do what he can to guide the laggards out of their lethargy. If this cannot be done, then economic law will soon remove them from the scene. No element of business can take a "don't give a darn" attitude and expect to prosper. Everyone must be concerned that our industry as a whole prospers, and no disinterested attitude toward any phase can be helpful.

Thus better co-operation between the various interested elements of our industry, plus a studied effort toward improved steps in self-education and an enlightened and sympathetic view of the other fellow's problems seem to me to be the ultimate pathway to "Utopia" in the electrical wiring business. All in the industry must be on the "qui vive" and the "poor customer," so often forgotten, must get his money's worth when he has some work done.

Now, to the business at hand.

Does the electrical contractor have or exhibit inertia?

From the standpoint of resisting change, and efforts to perform improved and more adequate wiring installations, I think that he does. From the standpoint of working hard at what he does to make a living, nothing could be farther from the truth.

How many of you have heard the old contractor dirge, "If I quote on a good and adequate wiring job, then the screw driver and pliers guys will cut my throat! I have to do the jobs like my competitors do them, or I won't get any business."?

To me that is taking a relatively easy way to a small profit on a portion of the available business and, in effect, supports cut-throat competition from the "basket" boys. I am willing to bet that a little sales effort with the customers toward the end of selling and installing the kind of wiring jobs we all know are really required today would produce a reputation that would not only result in more and better jobs but a fairer profit as well.

"World's Poorest Salesmen"

Electrical contractors are notoriously reputed to be the world's poorest salesmen or no salesmen at all. They would rather rely on Code and ordinance requirements enforced by law for minimum installations and then put in the minimum jobs because in these circumstances all the contractors have to quote on the same thing, with perhaps some minor chiseling here and there. Practically all chance of doing a good job is blocked before it is begun.

Then, in a number of locations with which I am familiar, much contractor support is given to the promotion of ordinance requirements for what I call "gold plated" wiring in which expensive components are required to be installed rather than the expanded amount of wiring that could be installed at the same or slightly higher over-all cost if more reasonable methods were utilized.

The customer gets it "in the neck" because, for instance, he has to put conduit wiring in a frame house, or the cost of a range circuit is so much he has to leave it out, or a special service installation not in accord with national standards is required, or many other unessential uneconomic requirements to build up labor and material costs are made mandatory requirements by law.

Now, I do not blame the contractor alone, because sometimes he has had a lot of help in such things. He can, however, help in eliminating the unessential requirements and in selling the desirable and worth-while aspects of modern adequate wiring, all of course, within the bounds of reasonable safety from fires and personal hazards.

We have a national safety standard in the National Electrical Code, and while it may not be perfect, and by no means be considered an adequacy standard, experience has shown it to be very difficult to improve as a safety code except as technological improvements take place as time goes on. Local special rules are the bane of the wiring industry and have very seldom, indeed, proved to be of benefit even in local areas. If the Code is deficient, such deficiency may be readily rectified through a most proper and acceptable procedure that provides the required "checks and balances" for all interests. It is the American Standard for Wiring. Let's support it.

As to selling, I would like to quote some personal experiences that I think are illustrative.

Once when living in a rented house, the bathroom sink pulled away from the wall, and one morning the landlady had a plumber up to fix it. I called the plumber's attention to the leaking faucets and said the bibs should be renewed. He looked at

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Contractor Inertia?

Contractor Viewpoint

by H. L. Scott
Scott Electric Company
Corpus Christi, Texas

You have heard the subject of this discussion announced as "Who's to blame for Contractor Inertia?" Part of my objective in entering this discussion is to try to convince all of you that we should more properly change the "Who" to "What," because I am convinced by the observations of many years that it is not a question of persons but of circumstances.

I like the use of the word "Inertia" in setting up this discussion. In defining it very tritely it means "*Hard to start and hard to stop.*"

This peculiar property, I believe, also applies to contractors, and it is up to us here to apply the force necessary to not only start the body in motion but to continue the force necessary to overcome any "Reaction" which might tend to cause the movement to coast to a stop.

By this last statement I have practically admitted the existence of "Inertia" on the part of the contractors, so, in defense of them as a class, I should give my views on "Who's to blame for Contractor Inertia?"

In comparison with all of the other branches of the construction industry, the Electrical Industry is just a pup. It is quite possible that the carpenter blamed the lumberman, and he blamed the logger for their confusion, if they had any confusion at the time when they were no older than we are. It is quite possible that the plumber blamed the gas works, the water works, the pipe mills, the foundries, and examining for his troubles years ago. But they are all pretty adequate in their own fields right now, and, I might point out, are even encroaching into ours while we are pointing our fingers at each other and doing very little about it.

The point I am trying to make here is, that perhaps when we have been at it as long as they have we will get together for the good of the Electrical Industry and get the job done properly. I brought up the age of our industry simply to bring out the fact that while we have progressed technically far beyond the wildest dreams of the pioneers of the industry, we are still doing business much the same way it was done back in the days of wood moulding and cleat work. And I am not just talking about contractors. I am talking about manufacturers, utilities, wholesalers, distributors and everybody else who in any way makes their living out of the Electrical Industry.

If manufacturers, utilities and wholesalers would consider the contractor as an integral part of the ultimate end of delivering more and more kilowatts to the customer instead of just a necessary evil in the channel of distribution, the time would come when the contractor would fill that place in the picture as the principal contact with the customer, and the electrical industry would be a far stride ahead of its present position.

Now I am sure that some of you, who are not contractors, are thinking "Oh what's the use, we have tried and tried and it still doesn't work." I recognize the fact that there are some spots in the country where industry cooperation has been tried with signal success, but by and large it has been tried in most places with the mental reservation that it was a waste of time. So how could it work.

One of the detrimental factors in the electrical contracting business is there are too many electricians in it. Now I have made that statement any number of times and have offended a few people. I do not mean to discourage the electrician in the slightest degree. He is the backbone of the industry, and a great many of the men who are leaders in all branches of the industry were at one time electricians. But the function of the electrician is to make the installation of materials as directed or according to plans and specifications to the end that another wiring system has been assembled or extended. His job is not to create business for his employer, it is to do the job after the business has been secured.

Business Management Lacking

Alas, too, many contractors still operate their business as though they were still electricians and nothing more. I recognize these facts, and I deplore them, but I also recognize the possibility that the contractor will never be able to pull himself up alone by his bootstraps. Those contractors who are members of NECA are doing better than the non-members in the job, and I will tell you why a little later, and why they are going to do a still better job of becoming better business men, but I can also recognize the fact that many NECA members are just beginning to realize that the war is over. NECA members had the personnel, the equipment, the key man power, and the know how to do the job of installation for the war production program that all Americans are so proud of. They did that job, and they did it well.

But in the doing many of them got delusions of grandeur. They just couldn't be bothered with a paltry ten thousand dollar job, and the mere mention of residential wiring, unless it was a mass housing project, was almost an insult. Those men are leaders in the contracting industry, and they could be the leaders in a program of training and education to bring the contracting industry out of the status of electricians and into Business Men, if they will and I know that many of them are willing.

Then when the shooting stopped and everybody got set to catch up with the long denied demand for civilian goods, the utilities found themselves far behind the demand for generating capacity and an idea of actually trying to sell additional load, or any load which was not absolutely essential, was soft pedaled and we are only beginning to reach the position where utilities really want much more load.

(*Continued on page 32*)

This discussion which took place at the Sixth Annual Wiring Conference in St. Louis, recently, is of such great importance to the electrical industry that a considerable part of this issue has been devoted to its presentation. Readers are invited to send their own views for publication.

Fan Application

For most small commercial and industrial installations the rules governing application are relatively simple

by C. A. Lindberg

An awakening interest on the part of modern business of the importance of efficient ventilation is opening a practically unlimited market for exhaust fan installations in industrial, commercial, and institutional building. In stores, auto sales rooms, mortuaries, laboratories, bakeries, and numerous other types of buildings, fans are being applied to provide cool comfort for employees and patrons. In industrial applications such as foundries, they are being employed to exhaust excessive heat, gases, and smoke.

The highly competitive situation that exists among fan manufacturers has resulted in attractive prices for ventilating equipment, making it much easier for smaller industrial plants, stores, shops, restaurants, bakeries, offices, and similar occupancies to justify the installation of such equipment on the basis of results obtained.

The installation of exhaust fans should be a particularly attractive type of business for electrical contractors, because such equipment can be applied without the necessity of extensive engineering. There are several different methods of installation, and the rules governing these are such that an intelligent salesman or estimator can apply them with little difficulty.

Some fans are mounted in window openings, others in wall openings with automatic shutters, others in penthouses, and still others in plenum chambers with fixed louver openings in the walls for venting the air.

Exhaust fan installations may be classified into two general types: (1) those in which the fans exhaust into free-air spaces, and (2) those which exhaust air into ducts, and thus require that static pressure in the duct be taken into account in selecting the proper fan.

Free-Air Installations

To determine the proper size of exhaust fan equipment to be installed in any location, two factors must be considered:

(1) The size in cubic feet of the room, store, or other space to be ventilated. (2) The number of times per hour the air in this space should be changed.

When the number of cubic feet of air in the space to be ventilated has been determined, multiply that by the number of times per hour the air is to be changed. The number of changes of the air per hour will vary with different types of occupancies. Recommendations for several different classifications are shown in Table 2. The resulting product shows the amount of air to be removed per hour.

From this figure, the size of the exhaust fan or number of exhaust fans needed may be determined. Most manufacturers provide tables of air-moving capacities for their various sizes of exhaust fans, and typical data of this type is shown in Table 1.

An example of this simple calculation is as follows: consider a room, 18 feet wide, 20 feet long, and 10 feet from floor to ceiling. The floor area will be 18 x 20, or 360 square feet. This square foot area multiplied by the ceiling height of 10 feet gives a total content of 3,600 cubic feet. If the desired number of air changes per hour is 15, then the cubic feet of air per hour that must be removed is 3,600 x 15, or 54,000 cubic feet.

Referring to the typical fan per-

Mr. Lindberg is chief appliance engineer for the Emerson Electric Mfg. Co., St. Louis, Mo.

Table 1 — Fan Performance

Type No.	Size Fan	Speeds	R.P.M.	C.F.M.	C.F.H.
*DIRECT DRIVE EXHAUST FANS					
5447V and 5447J	12"	High	1140	450	27,000
		Low	860	275	16,500
5605CA and 5605CH	15"	High	1140	1500	90,000
		Low	860	1175	67,500
5605CB and 5605CE	18"	High	1140	2450	147,000
		Low	860	1750	105,000
5605P and 5605G	24"	High	860	4000	240,000
		Low	570	2750	165,000
6435E, 6435T and 6435U	30"	High	585	6700	402,000
		Low	570	5000	300,000
BELT DRIVE EXHAUST FANS					
130-A	30"		435	9500	570,000
130-J	30"		585	10,200	612,000
42-A and 142-A	42"		375	12,500	750,000
42-C and 142-C	42"		495	14,000	840,000
42-E and 142-E	42"		555	15,150	909,000
148-A	48"		285	15,700	1,000,000
148-C	48"		390	19,350	1,161,000
WINDOW FANS					
1500	15"		1040	2000	120,000
7404SNC	16"	High	1040	3000	180,000
		Low	860	1575	94,500
7404SNAR	20"	High	1025	4500	270,000
		Low	575	1925	115,500
5605DA	24"	High	850	5000	300,000
		Low	345	3100	186,000
5605EB	30"	High	405	6000	360,000
		Low	310	4000	240,000

R.P.M.—Revolutions per minute. C.F.M.—Cubic feet of air per minute.
C.F.H.—Cubic feet of air per hour.
*For performance of single speed direct drive exhaust fans see "Single speed information."

Table 2 — Recommended Air Changes

Type of Building or Room	Required Changes per Hour
Club rooms, billiard and card rooms	6-8
Dining rooms	2-3
Sleeping quarters	3-5
Offices, barber, drug, grocery and barber shops	4-6
Smoking rooms and bowling alleys	8-10
Public lavatories	18-25
Garages and laundries	10-15
Restaurants	10-14
Kitchens	12-15
Markets	8-12

Table 3 — Duct Resistance

Direct-Drive Exhaust Fan Size	Resistance for 10' lengths of round ducts	Round Duct Size Diameter	Equivalent Rectangular Duct Size	Rectangular Duct Area
12"	.015"	12"	=12"x13"	156 sq. inches
16"	.015"	16"	=16"x18"	288 sq. inches
18"	.015"	18"	=18"x20"	360 sq. inches
24"	.012"	24"	=24"x37"	888 sq. inches
30"	.010"	30"	=30"x46"	1380 sq. inches

Each 90° elbow, where applicable, add additional resistance.

formance data, Table 1, it is found that a 16-inch exhaust fan has a free-air capacity of 1,500 cubic feet per minute, or 90,000 cubic feet per hour which will adequately handle the requirements of such an installation with ample allowance for resistance to the air movement as found in the average installation.

Best results are obtained by installing exhaust fans for discharge of the air with, rather than against, prevailing winds. In places where odors, steam, smoke, or excessive heat are present, the exhaust fan should be placed near the ceiling. In kitchens the fan should be placed directly above or near the stove and as close to the ceiling as possible. This will prevent the circulation of smoke, steam, and odors to other parts of the room and to other rooms of the building. Exhaust fans should always be installed directly in the outside wall or upper part of the window.

In garages, chemical plants, and similar locations, where escaping gases or fumes are heavier than air, and tend to fall toward the floor, the exhaust fan should be located as near as possible to the floor.

The rapid extension of electric service to farms has greatly expanded the market for fan installations in barns, poultry, and hog houses. The basis for calculations of fan size required for barns is determined by allowing the cubic feet of air per hour as indicated in the following tabulation:

	Cubic feet of air per hour
Per cow	3,500
Per horse	4,300
Per hog	1,350
Per sheep	900
Per head of poultry	35

To determine the total volume of air to be exhausted from the building, multiply the recommended number of cubic feet per animal by the total number of animals to be housed. Then referring to the cubic feet per hour column in the application table, find the size fan or fans that will handle the total volume of air necessary for proper ventilation.

The fan should be located in the center of the building with air intakes at opposite ends of the building if possible. Be certain there are no open doors or windows close to the fan which will short-circuit the air and reduce the effectiveness of the fan.

The accompanying diagrams illustrate the simple rules that govern air movement and emphasize the importance of location and size of air inlet openings.

Because an exhaust fan draws air from a room, thereby creating a partial vacuum, it is highly important that the air inlets to the room be properly located, and that they, at least, have the same area as the area of the opening through which the fan discharges. They should be larger if possible. These inlets, doors and windows, should be opened on the wall opposite the exhaust fan. This will permit the fresh air to pass through the entire length of the room before reaching the fan, assuring thorough ventilation, as illustrated in Figure 1.

An incorrect method is shown in Figure 2. When open windows or doors are on the same wall or close to the exhaust fan, the room will not be properly ventilated, although the fan is discharging its rated capacity of air. Under such conditions, the air short-circuits by coming in through the nearest opening and traversing only that portion of the room between the opening and the fan.

Control of ventilation is largely a matter of proper location of inlet openings. If all openings are located in the wall opposite the fan, all the air removed by the fan will travel the entire distance between inlet and outlets. However, if ventilation is desired in a corner to the right or left of the fan, it is only necessary to provide an inlet opening in such space and of such size as to permit the desired portion of the fan capacity to be drawn in at that point. Care should be exercised, however, to limit the opening to the smallest possible

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Figure 1—Right

Figure 2—Wrong

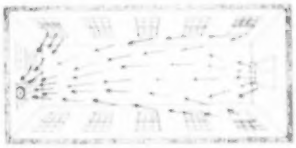


Figure 3

Figure 4

Figure 5

Table 1

Performance of Emerson-Electric Direct-Drive Exhaust Fans Against Static Pressures

Size Fan	*Speeds	RPM	CFM Under Static Pressure Inches of Water .00	.05	.1	.15	.2	.25	.3	.35	.4	.45	.5
12"	High	1140	850	700	500	300							
	Low	860	725	525	375	230							
16"	High	1140	1900	1450	1150	925	670	400					
	Low	800	1125	1050	875	700	500	300					
18"	High	1140	2450	2150	2000	1750	1550	1200	700	400			
	Low	860	1750	1650	1500	1400	1150	900	570	300			
24"	High	860	4000	3900	3600	3300	3000	2700	2400	2000	1500	900	400
	Low	570	2700	2550	2500	2200	2000	1800	1500	1400	1000	650	250
30"	High	685	6700	6200	5740	5240	4800	4350	3800	3360	2700	2200	1500
	Low	570	5000	4400	4250	4350	4000	3620	3200	2780	2300	1820	1240

CFM—Cubic feet of air per minute. RPM—Speed of fan in revolutions per minute.
*Performance is shown for two-speed fans. For performance of single-speed fans see "High" speed information.

Pricing for Profit

Serious errors can occur in confusing mark-up on cost and margin on sales

by Arthur Roberts

RECENTLY an electrical dealer-contractor told us, "According to my prior profit and loss statement, my overhead expense was 35 per cent of sales, and so, I have been using this percentage in figuring the overhead on all installation work and appliance servicing jobs handled during this accounting period. Yet, when analyzing the profit and loss statement just received I find that my net profit is only 5 per cent of sales when I have been anticipating a net of 10 per cent and assumed that I was pricing my jobs to get this net."

Subsequent investigation disclosed that this dealer-contractor had kept his overhead expense down to a normal figure and his labor and materials cost had not increased. Then, why didn't he earn the net profit anticipated when he had used the right percentage of overhead expense in pricing and costing his sales?

He had confused mark-up on cost with margin on sales. As a profit and loss statement is set up, sales are considered 100 per cent and the cost of labor, materials, overhead expense, and net profit are figured in ratio to the sales-dollar volume. In this case, the overhead expense, in round figures, was $14,000 for the prior year, and his sales volume, $40,000, or an overhead ratio of 35 per cent of sales.

When he priced his jobs, however, he switched from the margin on sales formula to the mark-up on cost formula and this cut his net profit even though he did more business in the latter period. Our audit showed that he had increased volume 10 per cent, yet he had earned more money in the *former* accounting period. The reason for this inconsistency escapes many electrical dealers and contractors, but it isn't hard to explain.

When a contractor or dealer prices his installations or service work on appliances, or costs them afterward to determine the net profit per job, he should be careful that he does not switch the pricing calculation from the margin on sales formula to that of mark-up on cost.

This practice is quite common in this field. To illustrate, we offer the following simple examples. The figures are merely illustrative and are not intended to represent the ratios of any electrical dealer or contractor or group of such dealers or contractors.

Say that Contractor-Dealer Miller's profit and loss statement figures for the prior year are:

Sales	$40,000	100%
Cost of sales—labor and materials	24,000	60
Margin of profit on sales	$16,000	40%
Overhead expense	12,000	30
Net profit on sales	$ 4,000	10%

If Miller sticks to the margin on sales formula when pricing or costing his jobs in the next period, and if he does a similar volume and keeps his overhead expense and cost of sales (labor and materials) down to the same ratio, he should net 10 per cent profit—BUT—if he is not aware of the hazard in switching from the margin on sales formula to that of mark-up on cost, and he assumes that as long as he uses the right ratio, 30 per cent, as shown by his prior statement that this will net him the desired profit, then he will experience a decreased return, and he may even end up in the red.

For example, say that Miller's cost of sales (labor and materials) in a subsequent period is $24,000, but that he switches from the margin on sales to that of the mark-up on cost pricing formula, arriving at his selling prices or profit by figuring overhead expense at 30 per cent of the cost of sales and net profit at 10 per cent of this cost. Then this would be the result:

Cost of sales—labor and materials	$24,000
Add overhead expense—30 per cent of cost	7,200
	$31,200
Add net profit—10 per cent of cost	2,400
Sales for period	$33,600

Adhering to the right per cent of overhead, but using the wrong pricing or costing formula, Miller calculates his overhead expense for the period at $7,200 when it is really $12,000, and so, he short-costs his burden $4,800. In reality, his profit and loss statement when taken from the books at the end of the period will read:

Sales	$33,600	100.0%
Cost of sales—labor and materials	24,000	71.5
Margin of profit on sales	$ 9,600	28.5%
Overhead expense	12,000	35.7
Net loss on sales	$ 2,400	7.2%

Instead of earning the anticipated net of 10 per cent on sales, Miller loses 7.2 per cent on sales because of the wrong use of overhead and net profit percentages. From our accounting experience, we can report that there are

a lot of other Millers in the same boat on this important phase of job management.

Of course, this illustration covers an extreme case, nevertheless, the use of the wrong pricing or costing formula does play havoc with the profits of electrical businessmen if they unwittingly switch from the margin on sales calculation to that of mark-up on cost even only part of the time.

To cover the anticipated overhead and net profit, one must know what these ratios are and this information is obtainable from experience figures, the overhead in dollars and cents computed as a ratio on sales in dollars and cents for a prior period. The net profit is yours to choose, depending upon what you think you should earn for your business investment and managerial efforts. Knowing the overhead and net profit ratios, it is an easy matter to price sales or cost your jobs afterward by deducting the total of these percentages from sales as 100 per cent, to wit:

Sales		100%
Overhead expense	30%	
Net profit	10	
Margin on sales	40%	40
Cost of sales—labor and materials		60%

The difference between the overhead and net profit percentages and the sales percentage is the cost of sales percentage, or the cost of labor and materials, in this case 60 per cent.

Knowing the cost of sales ratio, it is an easy matter to arrive at a selling price on a job that covers overhead and the desired net profit. Say that Miller figures labor and materials at $75. This $75 cost of sales is 60 per cent of sales, according to the prior tabulation, and so, divide 60 into $75 to get one per cent, or $1.25, then multiply by 100 to get the sales figure, $125, which is always 100 per cent. This is how Miller would arrive at the selling price of this job.

Selling price of job	$125	—100%
Cost of job—labor and materials	75	— 60
Margin of profit on job	$ 50	— 40%
Overhead chargeable to job	$ 37.50	— 30
Net profit on job	$12.50	— 10%

Most businessmen in this field will find that their overhead strikes a norm in time that averages up about the same from period to period unless they undertake a program of expansion. They cannot afford to use the wrong pricing or costing formula because there is little chance that they can make up for any resulting loss by reducing their overhead expense.

If Miller had figured this job on the basis of mark-up on cost, using the ratios taken from his books and listed on the profit and loss statement as a percentage of sales he would have lost money on this job, to wit:

Cost of job—labor and materials	$ 75.00
Add 30 per cent overhead expense to cost	22.50
	$ 97.50
Add 10 per cent net profit to cost	7.50
Selling price of job	$105.00
Selling price when figured with the margin on sales formula	125.00
Miller short-changes himself	$ 20.00
Net profit on job when figured with the margin on sales formula	12.50
Miller is out of pocket	$ 7.50

Miller doesn't earn the $12.50 he should earn to get the anticipated net profit and he loses $7.50 besides because he switches the pricing formula from margin on sales to mark-up on cost. A $7.50 loss on a $105 sale is 7.2 per cent net loss on sales.

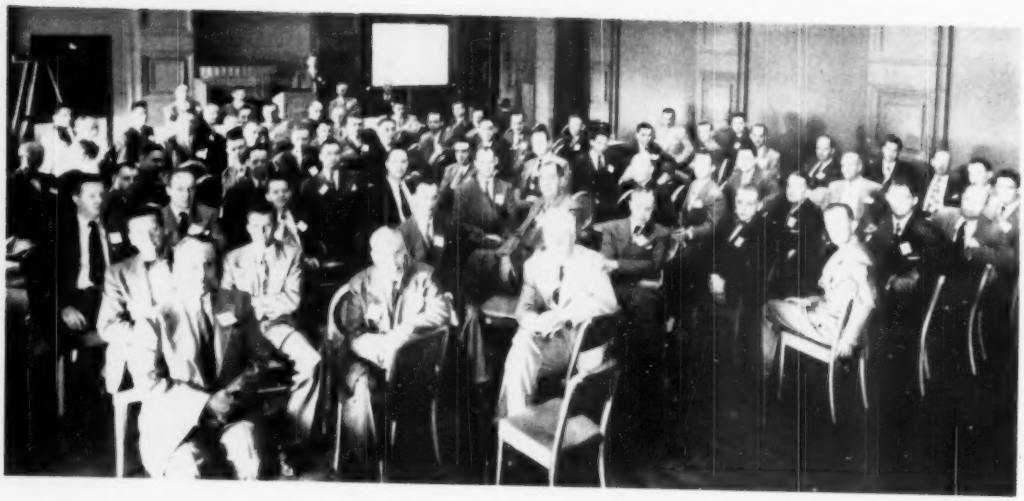
If Miller does $40,000 yearly and loses 7.2 per cent on all jobs handled, he will have a total loss of $2,880. If he had planned for 10 per cent net on $40,000, or $4,000, he is out of pocket this $4,000 plus $2,880, or $6,880 because he does not use the right pricing or costing formula.

Although labor and materials cost may be fairly well standardized for the type job to be estimated, the overhead and net profit may vary with the establishment, sometimes widely. The good business manager will have a lower overhead per job than the inefficient operator and even where managerial competence is about the same, factors external to job work may affect overhead expense.

One businessman may, for example, own his business building free and clear, may have bought it in prewar days when real estate prices were low, another businessman may pay a high rental for a site acquired since the war, hence, the latter will have a higher occupancy expense than the former. That is why the seller of electrical goods and job work should know what his burden is and see that it is pro-rated equitably to every job handled and to the various departments of his business, otherwise, he may get into financial difficulty.

The profitable allocation of overhead expense depends upon the pricing formula used on jobs or re-sale merchandise; the use of the wrong formula causes heavy losses in this field; dealers and contractors should guard against this financial hazard.

Today, with the cost of labor much higher than in prewar years, and inasmuch as it is likely to remain high, the reader should pay more attention to his labor cost and take every precaution to keep it down. But he must also make sure to include enough allowance in the estimate to cover the normal burden for his business plus the net profit anticipated. This counsel also applies if he has certain fixed prices for installation and service. The best way to assure yourself a profit for an accounting period is to know your operating ratios in percentage of sales and then base future prices or costs on these ratios and not upon the mark-up on cost formula.



The Southwestern Conference

IES Regional

SUCCESSFUL LIGHTING promotional plans, new techniques in applying lighting for specific needs, and new equipment developments were among the subjects that occupied members of the Illuminating Engineering Society at the regional conferences held recently in the Southwest and the Southeast.

The Southwestern Regional Conference was held in Dallas, Feb. 27 and 28, with Floyd A. Covington, regional vice-president, presiding. The Southeastern Regional Conference was held in Atlanta, March 6 and 7, with Joe B. Browder, regional vice-president, presiding.

Both conferences featured addresses by Charles H. Goddard, president of IES. Another highlight of both conferences was the detailed account of what the planned lighting program had accomplished in New Orleans. This was presented at the Dallas meeting by J. Mason Guillory, manager of the industrial and commercial division, New Orleans Public Service, Inc. The Atlanta meeting heard much the same story from J. M. Jennings, of the same company. (Other highlights of the Atlanta conference program were given in a news article in the March issue of ELECTRICAL SOUTH.)

Silver Anniversary

It was the silver anniversary of organization in the Southwestern region, but this fact had apparently been overlooked locally, being called to attention by Charles H. Goddard, national president of IES, in one of his two appearances before the convention. He is manager of utility sales for Sylvania Electric Products, Inc.

Goddard, speaking to a capacity luncheon meeting, traced the substantial growth of IES from the first organization meeting in December of 1905, with 25 present, to 1950, with 7,000 members in 39 chapters in the United States and eight in Canada. In this address he pleaded for adhesion to standards, referring at one point to lamps.

"There are a great many types of lamps on the market," he said, "and let's make sure we don't have too many duplications. For a standard is the solution of a recurring difficulty."

He discussed codes, American standards and recommended practice, and revealed that 17,500 copies of the IES handbook are in circulation and invited suggestions from those who dislike any feature of the handbook.

"What we must do," he continued, "is to establish and maintain policies and procedures that preserve our stature as an organization. And here in the Southwest I urge you to not only engage in more vigorous activity, but project yourselves into national affairs and help build a national organization."

Previously, addressing delegates, and members of the Dallas Electric Club at lunch during a recess of the planned promotion session, he declared that 85 per cent of the nation's lighting is inadequate according to modern standards. "The average home needs four times more light, average classrooms need at least seven times more and offices and factories five and four times more respectively, he said, and continued:

Who Makes Recommendations?

"Survey findings indicate that in the last few years some 26 per cent of those who purchased new lighting did not consult with anyone before purchases were made, and only 20 per cent had been in touch with either an architect, lighting engineer, fixture manufacturer, jobber or public utility. Electrical contractors have been consulted to a greater degree regarding the type and caliber of lighting job to be expected, but even this figure is a disappointingly low 38 per cent.

"It is the responsibility of the lighting industry as a whole to reverse this condition, and it is a job for the entire industry, not merely one or two segments of it."

It seems to me imperative that all members of the lighting industry be drilled in the elements of the recommended practices of modern illumination so that they understand what is meant by good, adequate lighting in accordance with the best practices."

The Southeastern Conference

Conferences

This promotion section was launched with a brief address, "Importance of Lighting Sales to the Utility Industry," by Herbert L. Nichols, chairman of the board, Southwestern Public Service Company, Dallas.

"The advance in the art of electric lighting has been so rapid," he emphasized, "and the increased efficiency so substantial, that our lighting customers are today being supplied with illumination almost as a gift. Let us say $1.25 per million lumen hours from present installations against $35 for the old carbon incandescent, $40 for gas flame, $75 for coal oil and $500 for tallow candles."

Referring to salesmanship he added that whatever place an individual occupies in industry, one of his most important problems is salesmanship, whether he realizes it or not; and the determining factor in one's success is the personal equation.

"Perhaps too many times an employee will spend too much energy in trying to sell his own ability to his superiors, when the most important and efficient salesmanship is to sell himself to the individuals working for him. Without their wholehearted cooperation and assistance, efficient results will not accrue. And, after all, that is the essence of establishing your own relations with your superiors."

In a carefully prepared discussion of "The Edison Electric Institute Planned Lighting Program," C. B. Barron declared that that program is today's answer to the real problem of selling good lighting load. He represents the Gulf States Utilities Company, of Beaumont, Texas, and is chairman, region 1, planned lighting promotion committee.

Posing the problem for his listeners, Barron then explained, step by step, what to do about it through use of the program. The discussion carried him into definition of types of customers, execution with supplemental help, promotional and advertising support, costs and a summary of seven effective benefits. Concluding, he said:

"Everyone in the industry can be assured that this is a good program. The best tools ever developed are made available. The ideas and materials have been originated and prepared by some of the most experienced and talented people in the industry. These recognized talents, plus support of companies from all branches of the industry, have been fused to give this program the benefit of the work of experts who cumulatively have had hundreds of man-years of experience.

"We really have something in the Planned Lighting Program. The problem is, are we equal to the task of executing it?"

Then the convention delved into specific cases where a program was used. With slides and accompanying discourse, L. Mason Guillory, manager of the industrial and commercial division, New Orleans Public Service, Inc., discussed "Commercial Planned Lighting Pays."

Establishing first that a commercial load is a most desirable one, Guillory said the commercial planned lighting program of his company is built around the man who plans. Tracing progress of "the man who plans" from early training to sales representative, the speaker said training in his company never ceases and that the field of school lighting offers the greatest opportunity to serve the entire community while promoting general interest in good lighting. He described sales technique and procedure in detail and then, using a chart, summed up results for his company.

Results of Program

"Boiling all this down," he said, "here are some of the tangible results obtained: . . . 18,000 lighting promotional calls were made during the year, this means better than one planned lighting call per commercial customer.

"Some 20,000 lighting fixtures were sold by New Orleans dealers during this period.

"Dollar volume of lighting fixture sales totaled $575,000, with promise of even greater sales during the year to come.

"Better than 5,000 KW were added to our lines. Increased estimated annual revenue from this load came to $201,412. Results such as these convince us that promotion pays."

Good lighting can be sold to any intelligent person "if we tell our story," said C. J. Blum, in a discussion, "Planned Lighting Promotion in a Large City." He is superintendent of residential and farm sales for the Houston Lighting and Power Company, of Houston, Texas.

Year-Round Program

"Such a program should be conducted on a year-round basis," he continued, "must have a factual background and the unqualified support of related industries. Emphasis should be placed, too, on profit possibilities for a dealer.

"But unless we educate ourselves, we will fall short on this job. If we can't sell our own companies on good lighting, how can we sell anyone else?"

Relating that his company serves 266,000 customers compared with 156,000 in 1940, Blum said the first step in Houston was for company engineers to conduct courses designed to convert all personnel, not into lighting experts, but into lighting salesmen. He dealt in some detail with tie-ins through meetings with builders, architects, dealers, distributors and contractors, and how the firm worked with civic clubs and schools for a total of 96 group meetings attended by 10,000 people. The program was also tied in with a home show and 600 personal calls were made by industrial engineers.

"Don't forget," he cautioned, "that it is highly important to put over the idea 'What's in it for me?' If you co-ordinate such a program it can be the most effective means of producing new revenue.

"We had 85,000 people register at a model 'Sunshine Home.' Small lamps to the number of 37,800 were sold along with 1,000,000 light bulbs. There was a $320,000 increase in our EAR, and of $1,000,000 in EAR for the year, we were told that 60 per cent of it was due to lighting sales."

In smaller towns, procedure is much the same, yet there is a closer relationship with a great segment of the customers, according to Don Jones Castles, manager of the utilization department, Southwestern Public Service Company, Plainview, Texas. He discussed "Planned Lighting Promotion in Smaller Towns."

In the plains division of his company there are 24,500 customers in 28 towns of which only four have more than 5,000 population. One of the essentials here, too, he emphasized, is to train all employees to be lighting salesmen.

"The first problem," he said, "is to get public service into the minds of the people and then strive for greater prestige. We have our own 'House of Magic' show, having built what we couldn't borrow, at a cost of $300 and unrecorded man hours.

"Our show is 95 per cent lighting. We have had it in 17 towns and shown to 6,500 adults and 7,000 school children. As a result there is no town in our territory where at least one merchant does not use black light.

"But we learned one thing. We must be able to answer all technical questions, for they come at unexpected times from unsuspected sources. And we learned, too, to let people watch us pack up after a show. That is part of the show for them."

This company invented a free game similar to bingo for county fairs, which receive especial attention, and at one fair players won 600 certificates good for $1 on the purchase of a certified lamp. The program is tied in with lamp campaigns, with prizes to local managers and dealers on quotas. There are Christmas lighting contests with company helps for contestants and clubs; and the company will light a stage for a local play, loan PA systems and decorate a merchant's window. This utility has learned that it is essential to keep plans as simple as possible, said Castles.

Tracing fluores cent from its first appearance in 1938, R. N. Hinkins, vice-president of the Albert Sechrist Manufacturing Company, of Denver, Colo., related some of the headaches experienced by his company, but added that as of now "it is really hard to think of a problem to which slimline cannot be adapted." His subject was, "Slimline Sales—Past, Present and Future."

Slimline Sales Up

"The fact is evident in my own business," he continued, "that as better slimline fixtures become available, 40-watt sales go down and slimline sales continue to go up. I think it is safe to predict that within a very few years, perhaps in the next two or three, sales of 40-watt equipment as we know it now, will be confined to replacement, or to the installation that is being added to and requires fixtures to match those purchased at some previous time.

"To get down to brass tacks, why should a man who wants eight feet of light source buy two 40-watt lamps which require two starting switches and one ballast, which give him five items to replace, when he can buy one eight-foot lamp which requires no starter and only one ballast and so has only two items to service or replace?"

Hinkins said the public buys slimline for two psychological reasons: they are new and they start instantly. To sell them, he said it is necessary to stop thinking about selling the

(Continued on page 56)

Attired for the principal social function, a ranch style dinner and square dance, are, left to right: Floyd Covington, Southwestern regional vice-president; C. H. Goddard, national president; and R. L. Biesele, Jr., regional director.

The Utility Viewpoint

(Continued from page 22)

them and told the landlady that while he was there he would put in a couple of new chrome-plated faucets because the old ones were worn out anyhow. She readily agreed. Now, I know that all that was needed was a couple of bits and perhaps a smoothing of the valve seats, but this plumber was after some extra profit, and legitimately, too, because the old faucets were nickeled brass, quite worn and somewhat unsightly, although still serviceable.

Did you ever hear an electrical contractor tell a customer while he was on a job, say putting in an outlet or two, that he might to revise the service entrance, possibly replace the old open main switch equipment with modern circuit breakers, or install a range circuit or fix up the refrigerator circuit so the lights would not blink every time the refrigerator started, always a source of annoyance to the householder?

Why Kill a Sale?

In a little town in Ohio, I once was with a power company man who had been called out on a job by a contractor for consultation on a service drop location. The customer was building a beautiful gasoline filling station and didn't want the drop string from the street pole over his drives to the building. The contractor wanted the power company to string the drop from the pole to a building to one side and behind the station building and then from there to the load of the station building which was strictly against the power company's rules and Code rules.

I suggested an underground service and had the customer entirely sold when the contractor said, "Heck no! You don't need that, and besides, it would cost $150." That unsold the customer and a good additional profit to the contractor was lost. A compromise was made and a rear stub pole was set up for the drop. So everyone lost, particularly the customer, because some of the attractiveness of his layout was spoiled, and $150 was an almost infinitesimal part of the total cost of the station.

Again, most of the group of companies with which I was associated have for years been trying to get three No. 6 conductors as a minimum for domestic service entrances and with some success. While it is not required except in some rural areas, contractors tell their customers that this is a power company requirement. The other day, a contractor came to a meter department supervisor, and said he had a job where the customer just did not need the No. 6 service and wanted to put in something smaller. A little checking revealed his price was based on the No. 6 but he was trying to eke out a few extra dollars profit by putting in something less. The customer doesn't know anyway.

One of the greatest complaints I hear regarding electrical contractors is that they try to get prices for a job in accordance with usual specifications, which incidentally are nearly always inadequate, and then try to increase profits by cutting every corner they possibly can. Now, I do not mean that this is too morally reprehensive, but it certainly doesn't help the industry any and certainly not the contractor.

Another factor for which perhaps the contractor cannot be wholly blamed, is that the specifications given him for quotations are often obsolete and no opportunity for suggestions for improvement is given or such suggestions may not even be tolerated. Here, I blame the architects, primarily, and their general ignorance of electrical matters and their unwillingness to seek competent advice.

Two schools are being built right now in my home town, and I am informed that the electrical specifications used were prints of some that were used for several schools in the Detroit area over ten years ago. The contractors were given no opportunity to make any suggestions to modernize the plans.

During Christmas week a new store in a large Ohio town, having a 600 ampere service, was open at night with the store full of customers and all load on. Suddenly the main breaker tripped out. Some aspects of a panic resulted with an attendant loss of business and loss of merchandise surreptitiously removed.

Switch Application

The store owner, naturally most upset, called the power company and the contractor who installed the job. It was subsequently found that the maximum load was 445 amps and this tripped the 600 amp service. Most people familiar with wiring devices should know that a fused switch and certain kinds of circuit breakers cannot be continuously loaded beyond about 70% of rating so a 600 amp service is, in general, only good to about 420 amp of continuous load. If that doesn't seem right, it can't be helped for equipment is designed and built that way and always has been. It was misused in this case. A generously conservative rating for continuous loading is 50% of name plate rating, and breaking up the load in small units spreads the heat and thus gives better service.

The big mistake here was in installing the main. I don't know who specified it, but it can be eliminated under Code rules when a proper and adequately designed service is installed. The power company got blamed for the interruption by the customer, the contractor blamed the manufacturer of the breaker, and the manufacturer said, "All our literature shows very plainly the electrical ability of the equipment we make." So everyone was in the dog house because no one concerned with making the installation apparently knew his business.

20-Ampere Circuits

Most of you know of the present efforts of the utilities to promote the use of the 20 amp general purpose branch circuits in place of the present 15 amp circuits and the necessity for it. At a meeting of the International Association of Electrical Inspectors, in Boston, last August, the subject was discussed. Now, who do you suppose was the first to get on his feet and oppose the proposition. An inspector? A contractor? No. It was a utility man, of all people. Who was next? An inspector? No. It was a contractor. And neither one knew what he was talking about in my estimation.

Who opposed most of the developments in service entrance wiring that made it possible to so greatly increase the wiring capacity in homes economically, especially for the wiring to electric ranges, along in the thirties? It was the contractors. And their attitude was based largely on a fear of smaller profits with little thought that future electric range installations would be increased more than tenfold and profit expanded accordingly. And the utilities who fostered and promoted the methods, which are standard today, have been blamed up and down for fostering cheap, unsafe and short-lived wiring because of their own selfish interests without any consideration for others who are interested.

As everyone knows, the result has been just the opposite, and the whole of the electric industry has benefited. In fact, sales of all appliances have increased to the point that over 90% of all homes in this country must be completely rewired. And that will be quite a piece of business for the electrical contractors, if they will go out and get it.

Contractor Viewpoint

(*Continued from page 23*)

I fully realize that the objective of this meeting here in St. Louis is to foster and encourage Adequate Wiring in the residence, and the implication by the title given to this discussion is that adequacy is not being secured on account of Inertia on the part of the contractors.

Let's look at another factor which contributes to this so-called inertia on the part of the contractors. If contractors, as a class, were only engaged in residential wiring—I mean, if residential wiring were the only field in which the contractor was allowed to engage—then the electrical contractor could concentrate on residential adequacy but would always be pretty small potatoes so far as the electrical field is concerned. Suppose by some wild flight of fancy, laws were to be passed making all industrial, commercial, school, hospital and public work a "labor only" proposition. The contractor would then be in the position it seems many of the manufacturers and suppliers are trying hard every day to place him in by their policy of selling direct to all that market I have just mentioned without sufficient differential between the price to consumer and the price to the contractor, so that the contractor can successfully secure the business and complete it at a profit. That is one of the reasons that so many contractors are still such very, very small business men, and still are being considered electricians.

How can we overcome Inertia when so many opposing forces are working against us to keep us small? That is why so many of us have very small or no sales organization at all.

The "Direct-Selling" Evil

This is not heresy. It's simply a facing of the facts as they are. Every contractor in this room has had the experience of having to content himself with half the electrical volume on many installations simply because a manufacturer or supplier in their frenzy to take business away from their competitors have gone directly to the school board or the chief engineer at the plant or the executive of the department store and sold the goods, and it was left for the contractor only to install them. Did you ever hear of one of the major manufacturers of bathroom fixtures going directly to the consumer in order to prevent some other brand being used?

Let's get down to specifics!

It is popular in the Electrical Industry to point to the plumbing industry as an industry that sells up the plumbing installation. The home owner does not flinch at two bathrooms in a small house, and he wouldn't think of running a detachable rubber hose from the kitchen to the pantry to provide hot water for rinsing glasses. No. He would have a permanently installed pipe with a good faucet. And the plumbers seem to be able to sell quantity copper piping instead of the less costly steel pipe. Why? Because it does a better job, and the plumber is not backward about telling the customer, and he is not bashful about quoting—and sticking to the quote—of a fair price that will return him some net gain. They give the customer adequacy and quality.

Plumbers Solved Problem

Now there is a lesson in this plumbing example for us in the Electrical Industry. First, we do not find plumbing suppliers selling material directly to customers of the installing plumber. They found out that it is poor business to do so. You do not buy quality plumbing equipment except through the plumber. Second, there is no utility in the plumbing picture, as there is in the Electrical Industry. Utilities are involved, of course, but they are incidental to the plumbing industry.

The Electric Utility has had a very important part in shaping historical patterns in the Electrical Industry. When the Adequate Wiring Program came along, the utilities were in the forefront. They were in the forefront of promotions prior to the Adequate Wiring movement. Their objective was to build load. They did a good job of that. But in doing that good job they made a tragic oversight. In that oversight lies the fundamentals of this thing of "contractor inertia" we are talking about today.

The utilities went out to build load. It was obvious that even short-range public relations would dictate that it would be to the utilities' advantage to have enough copper in the installation so that lights would not dim when a small appliance motor started (the customer would blame the utility for the defect), and it was to the utilities' interest to have enough outlets so that the housewife would not be continually harrassed by "the inconvenience of electricity." So far, so good.

But the utility set out to achieve these laudable goals without, in virtually every case, any consideration for the man who, first, was the one who could assure adequacy; and, second, who could be a good will ambassador for the utility. I mean the electrical contractor.

The utilities wanted all of these things done but they wanted them done at the very lowest price that could be rustled up. They wanted to create the impression with the public that electricity was cheap. And they blithely sacrificed the economic foundation of the branch of the industry that could do this job adequately, the electrical contractor.

The bushes were beaten for electricians and others who would install circuits and outlets. Inevitably the work drifted to the man with the lowest price. It made no difference that in order to come out he had to work at night, donating his services of management with a cut-rate value on his own labor. It made no difference that in a year or so this man had dissipated his meager capital, went broke, left a sheath of unpaid bills in the economic wreckage that had been the white hope of the high-powered Adequate Wiring promoters of his town. It made no difference that the cost of this economic wreckage ultimately is paid by the user of electricity, for even today, somebody must pay for losses. The guy that gets soaked is the customer.

You may say that the contractor tears down the installation. I hear that indictment particularly from wholesalers. I say that it is the wholesaler that, wittingly or unwittingly, is the one who in the last analysis is tearing down the electrical installation; is cutting off his own nose to spite his face. When the competitive ships go down, it is a favorite practice of the wholesaler, or the manufacturer, who fears that he will lose the business to do one of two things: one, proposition the buyer to buy it directly and "save the contractor's profit," or, two, finance some unstable contractor who would enter a low bid and take a chance on an inaccurate estimate and bill of material concocted by the supplier.

These are the sort of things that disgust the progressive and ethical contractor who has the desire and the ability to do creative selling. This is the reason that with a few notable exceptions you find the qualified electrical contractors of the country ignoring the residential wiring field. They are good citizens, but they cannot afford profligate philanthropy, and they should not be expected to unless some "welfare state" deems it proper to give them a handsome subsidy. This the reason that the Adequate Wiring program frequently gets in dead center.

This is the kernel of the problem that brings us here to discuss such a subject as "Contractor Inertia." We contractors know this. We tell this to you not to turn the finger of accusation from us, but rather to bring the facts of life out for an honest review. We have no chips on our shoulders. Our good faith is amply demonstrated in what we are doing today, and what we propose to do.

The National Electrical Contractors' Association has an Interdependence Committee that is working hard to bring to the other branches of the industry the realization that we, as contractors, are a part of the Electrical Industry and not part of the Construction Industry as many others would have you believe. This Committee is responsible for assembling data about the volume of electrical materials and apparatus purchased by the membership of NECA, and this will be passed on to the manufacturers and suppliers, in an effort to convince them that we are entitled to be in the picture. And they are making good headway. Perhaps this "inert" body has already been set in motion, and what it needs is not to have so many opposing forces. Think it over.

The National Electrical Contractors Association has set up a broad and comprehensive program of training and business promotion that is bound to show results far beyond our most fantastic imagination of a few years back. One part of this program is known as the Management and Technical Personnel Training Program, or to use a more popular and simpler name, the Vestibule Training Program. The Administrative Committee of NECA allotted $67,000 to carry on the work of preparing and publishing the necessary textbooks and other material and developing the curricula for this training program. The study course for this program will be divided into four major subjects under the heading of Estimating, Job Management, Sales Engineering, and Accounting, and the first part of this program should be in operation during the year.

When you stop to consider that there is no school or college, no trained instructors, and no course of study in existence at the present time, you will realize the scope of the program that has been undertaken, but it is evident that the executive or key personnel of any contracting organization, including the old man himself in most cases, will be vastly better equipped to fill their proper place in the industry.

Another part of this broad training program is under the direction of the Business Promotion Committee which has been reconstituted with an active chairman in each of the geographical districts of NECA and with headquarters in the Public Relations Department of the NECA office in Washington. In order to be as brief as possible and still make my case, I shall quote from the presentation made of the subject at the Annual Convention of NECA at Houston, Texas, last November. The Committee, in its approach to the preparations of a program of business promotion, decided that electrical contractors as a class were plagued with four major problems.

(1) **Competitive Bidding**. For too long electrical contractors have been content to engage in a competitive bidding scramble for projects, the invitation to bid on which comes without any special effort on their part.

(2) **Labor Only Installations**. Due partly to the Contractor's failure to do a complete selling job in the distribution phase of our business, and due, also, to some customer misconceptions which have never been exposed to proper sales effort, a large part of our business is installation only. This tends to make the contractor a labor broker and makes for a higher overall cost to the customer.

(3) **Irregular Flow of Business**. The contractor engaged primarily in competitive bidding or labor-only contracts is on a feast or famine basis with no backlog of work to keep an efficient organization operating.

(4) **Below Cost Bidding**. The contractor depending on competitive bidding and labor-only contracts to keep his business alive is a stop-and-go operator who takes too long a chance when he bids a job in order to bolster his ego or to "keep his organization going" and the result has been a veritable wave of below cost bidding, which is destructive to the industry.

In order to overcome these problems, we must recognize and agree upon several basic considerations.

The interdependence of the utility, the manufacturer, the wholesaler, and the contractor, when each functions fully and properly should be a basic fundamental of the industry as a whole. Of all these, the contractor alone is the one who can shoulder the responsibility to our customers. By virtue of control over procurement, over labor, over installation engineering, the electrical contractor alone in the Electrical Industry can guarantee to his customer the proper and satisfactory functioning of an electrical installation!

This consideration has never been fully realized by the other branches of the industry and it never has been more than half-heartedly used by the contractor as a business promotion tool. A guaranteed installation is much easier sold and it makes for lasting customer satisfaction. Yet we have people in the Adequate Wiring Program who look with suspicion on the NECA Guarantee operation. Some even think that it is in competition with the work of the National Adequate Wiring Bureau.

Constructive selling instead of competitive bidding must be our aim. Constructive selling is creative selling. It creates business for the contractor, the manufacturer, the wholesaler, the utility and jobs for labor. The two greatest tools the contractors have to do this creative selling job are our installation engineering service and our ability to guarantee the job.

The National Adequate Wiring Bureau is doing a splendid job in the residential field, but it has never tackled the commercial or industrial field. Both are very important to the contractor, and it is a job that can be undertaken without duplication of effort by any industry organization.

NECA's Plans

As an initial step, a manual on selling Preventive Maintenance to industry has just been issued. Another manual showing how to institute and operate the Guarantee Certificate Program also has been placed in the hands of 5,000 NECA contractors. This Guarantee Program can be a vital help to residential wiring contractors. Both of these creative selling tools can be utilized at once as well as participation in the activities of the National Adequate Wiring Bureau, and it is the avowed intention of the Business Promotion Committee of NECA to try to sell them to every contractor, large or small, all over the country. To do this we have embarked on a year-long program of Chapter Public Relations.

During 1950, a kit of promotional materials will be sent out monthly containing newspaper mats, press releases, editorial matter suitable for newspaper stories, short speeches suitable for luncheon clubs or industry meetings, radio scripts, radio spot announcements, and a mailing piece. Different subjects, or rather different phases of the electrical modernization program would be treated each month and the field is so vast that the program can be continued year after year without repetition of anything except that which needs repetition; viz., that the electrical contractor is the only person in the industry qualified to be the final and direct link between the electrical industry and the customer.

Planned Maintenance

by A. B. Weaver

Central Power & Light Company
San Benito, Texas

THE DISTRIBUTION ENGINEER IS concerned with maintenance for two reasons. First, the type or quality of the distribution system. Secondly, we are responsible to management and our bond holders for the maintaining of the bonded property. The magnitude of this responsibility can be better realized when we consider investment in distribution equipment. The distribution investment of the average utility is nearly fifty per cent of the total investment.

The maintenance program may be done on a scheduled basis or on a hit or miss basis. The advantages of a scheduled program are well known. The problem facing the distribution operator is how and where to schedule his maintenance.

Before preparing this article, I mailed a simple questionnaire to most of the utilities in this area. The answers to the questionnaires show that few of us are doing any scheduled maintenance and convince me the distribution engineers are not complying with the bond holders' requirements. If this is true, why are we neglecting our distribution maintenance? It must be because we are too busy with new extensions. Most of you remember the depression years when all maintenance was deferred. You also recall the war years when men and materials were very scarce. It was during that time that we all deferred both maintenance and extensions. The end of this second period found most of us several years behind with both maintenance and extensions. Since the war, we have had a tremendous expansion with few engineers and trained men to handle even the new work demanded of us. This lack of trained personnel is the chief deterrent to proper maintenance. We are, at last, turning our attention to our maintenance program. If another retrenchment period hits us in the next few years, we must be in a position to sell our maintenance program to management, regardless of economic conditions.

For the purpose of discussion, I would like to divide the subject into four parts. They are: **Overhead, Underground, Transformers** and **Meters.**

Overhead Maintenance

Any scheduled maintenance program should be preceded by a careful inspection. The overhead system inspection should be reported in sufficient detail to enable a supervisor to schedule the maintenance work. A good inspector is on the lookout for rotten poles, defective crossarms, broken wires and loose or slack guys. He looks for hazards due to poor clearance of line conductors and services. He is careful to note unsafe clearances over highways, railroads and buildings. Any overhead inspection should include the conditions of transformers, cutouts, arresters and capacitors.

We must remember that no amount of inspection is worth its cost, unless it is followed by a maintenance program.

The questionnaires received from companies in this area indicate few of us are attempting to schedule our maintenance. Most of our maintenance is done after interruptions have been reported. Such a practice may be the way to get the most out of the system but it also causes the greatest number of customer complaints and public liability claims.

The causes of interruptions are many. A few of the most common are: uneven conductor sag, bare services wrapped together, causing transformer outages; primaries shorted or grounded by tree limbs. Phase to phase or phase to ground primary faults often cause burn downs at clamps or other high resistance points. Frequent inspection and continuous maintenance will reduce these interruptions. Any such reduction will improve public relations and reduce hazards.

It is the duty of engineers, foremen and servicemen to observe hazards and defects when out on other work. Such a policy, even if followed up by repairs, does not constitute a maintenance program. These employees are always very busy while out on regular work and are prone to overlook defective lines and equipment. If corrections are not made very soon after their reports they soon lose interest. The trips of such employees follow the most direct routes and they do not cover all of the system, even in a two or three year period. This is especially true for rural systems.

We have numerous primary interruptions which could be prevented by preventive maintenance. The Gulf Coast area is subject to wood burning of poles and arms. If the burning is detected in the early stages and corrective measures taken, an interruption can be avoided. Fast growing trees are always a source of trouble. The fronds from palm trees cause many burn downs.

Our operations and maintenance are, at present, taken care of by the Engineering and Construction Departments. The engineers are busy with design and estimate work in connection with extensions and improvements. They have little or no time for line inspection and maintenance supervision. The line construction department is also too busy with extensions and conversions to do needed maintenance. It is necessary to call them off of their regular work to do emergency repairs.

We hope, in the near future, to have the necessary personnel to set up an operating and maintenance department. They will do the inspecting of overhead lines, including the checking of transformers and capacitors. They will schedule the work of line maintenance crews, and will supervise tree trimming. The scheduling of maintenance of 12 KV systems becomes more difficult as the loads on lines increase. It is not always possible to de-energize these circuits for maintenance work. Therefore the Maintenance Department will include a "hot line" crew.

Underground Maintenance

The underground distribution equipment located in vaults requires frequent inspection and maintenance. This equipment includes such items as transformers, network protectors, relays, automatic breakers, secondary fuses and service limiters. The transformer temperature should be recorded frequently from the temperature indicator. The pressure, alarm and primary switch is examined and tested manually by most operators. The fre-

(Continued on page 42)

THE CURRENT TREND

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You can find the exact fitting you need in the Penn-Union Catalog— practically every good type, in a complete range of sizes. The few here can only suggest the variety.

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Advance Ballasts...

This BRICK type ballast is but one of a complete line for all fluorescent fixtures. Write for new price list

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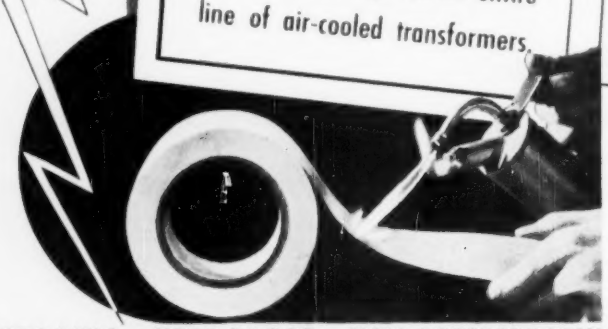
NEW! A Good Transformer MADE BETTER!

MTC uses the new JOHNS-MANVILLE *Quinterra* insulation throughout its entire line of air-cooled transformers.



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Insulation determines the working life of an air-cooled transformer. Marcus Transformers have always been known for their use of superior Class B and C heat-proof insulation. In this phase of construction, MTC has pioneered many noteworthy firsts. AGAIN, MTC is pioneering in the use of *quinterra* throughout its entire line of air-cooled transformers. That's why when air-cooled transformers are specified or needed, the reputation of Marcus stands pre-eminent in its field. That's why we invite your inquiry with confidence, knowing that once you have utilized a Marcus air-cooled Transformer, you will specify no other.

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Complete Stock is Warehoused by:
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(*Continued from page 34*)

quency of inspections of network protector contacts is determined by the number of operations. Relays should have visual inspections 8 to 12 times per year, and at least one test annually. The other equipment in the vault is generally inspected when the vault is entered. Vaults accumulate mud, cigarette butts, chewing gum wrappers, matches and other things through ventilating grates. This necessitates frequent cleaning. The presence of water in vaults introduces corrosion problems. Repainting and touching up is almost a continuous process.

Underground cable can only be inspected in the manholes and the duct entrance. If failures occur elsewhere, the cable must be excavated for repairs. Since most failures occur at joints or terminals, it is seldom necessary to disturb the duct system. When cable is first installed a high-voltage test is made by most utilities. Other high-voltage tests are made at intervals of six to twelve months if the cable can be removed from service. That usually indicates the cable is pulled in, tested, energized and then all hands pray that it does not "blow up." The records indicate the present day cable is giving good service where it has been properly installed. Perhaps the praying has some effect.

Transformer Maintenance

The transformer is a very necessary piece of electric equipment. Its continuous operation is very important. Proper maintenance will help maintain that continuous service. Distribution transformers are very sturdy but some maintenance is essential to long life. The engineers in the Coastal area have some problems which are uncommon in dry climates. The presence of moist air tends to lower the dielectric of transil oil. The alternate heating and cooling of the transformer causes condensation when air is present inside of the tank. The condensation in some cases causes rusting of lid and tank on the inside. It is hard to find paint which will stand up in this area. The transformer hangers rust badly. They even fall apart after a few years.

The answers received from our questionnaire indicate that pole mounted transformers are installed and forgotten until damage or overload necessitates a change. In some cases they are replaced when the number of services connected seems to indicate overload. Others are replaced when low voltage complaints call for load checks. During periods of rapid

growth, it is often necessary to replace transformers, due to overload, before any maintenance is necessary. Those of us who have conversion programs in the progress have additional replacements. In fact, the scheduling of our maintenance may be delayed a few more years due to a program of conversion from 2.4 and 4.8 KV to 7.2/12.5 KV. This program makes it necessary to change transformers more often than we otherwise would.

The discussion thus far has been limited to pole mounted transformers. We will turn now to the larger units. It is our practice to use platform or rack type mounting for power banks exceeding three 25 KVA and base or slab mounting for unit substations and banks of three 150 KVA and above. At present we are inspecting the larger and more important banks each year. Some of the reporting companies maintain a six month schedule while a few others maintain a two year schedule. The average is one inspection per year. In our District we have a transformer crew. It is their duty to make monthly inspections of the distribution substations, including unit stations and switchgear. On these trips they check the equipment and make minor repairs. The major repairs are handled on a scheduled basis.

Most utility companies maintain a transformer test, repair and paint shop. Some of these shops handle all transformers removed. We have such a shop at our Service Center but we are not as yet passing all used transformers through the shop, due to the conversion program mentioned above.

Meter Maintenance

Since the revenue depends more and more on correct metering, consumer metering is always one of the distribution engineer's chief concerns. Our demand meter problems have greatly increased during the past few years. This has been occasioned by the increased KWH consumption and the application of additional demand rates.

Referring again to the questionnaire, we find a greater effort on the part of the operators to schedule their meter maintenance. Nearly every report listed some form of schedule for meter tests and repairs. The reports indicate the following test periods: self contained, 5 to 8 years, self contained with demand, 2 to 3 years, small instrument transformer types, 1 to 3 years and large types, 4 to 12 months.

In conclusion, I will outline a recommended schedule for maintenance of a distribution system. Any schedule I might suggest will not be suitable for all systems but perhaps it will encourage discussions.

The following is the recommended schedule:

(1) Overhead lines: inspect main and tie feeders at 6-month intervals, and all other lines annually.

(2) Transformers: note the general condition of transformers, arresters, cutouts and capacitors during annual line inspection. Schedule ground tests, repainting and oil change at 8-year intervals. Inspect platform mounted transformers on a 2-year basis, base mounted on 1-year basis, and switchgear on a semi-annual basis.

(*Continued on page 59*)

ANALYSIS OF QUESTIONNAIRES

CO.	OVERHEAD				UNDERGROUND				TRANS-FORMERS			METERS (Tests)			
	Routine Insp.	Ground Test	Arrester Tests	Capacitor Tests	Manholes	Ducts	Cable	Cable Test (Type)	Pole-Mounted	Platform Mounted	Base Mounted	Self Contained	S.C. with Demand	Small Transf. Type	Large Transf. Type
No. 1	None	None	None	None	2 mo.				None (c)	None (c)	1 yr	5 yrs.	1 yr.	6 mo	2 mo.
2	5 yr.	2 yr.	2 yr.	2 yr.	1 wk.	1 wk.	1 wk.	hi-pot 1 yr.	None	1 yr.	1 yr.	8 yrs	2 yrs	6 mo	1 mo.
3	3 mo.	None	None	None	a	None	1 yr.	H.V.	None	None	None	3-9 yrs.	1-5 yrs.	1 yr.	6 mo.
4	None	None	None	1 yr.	2 mo.	2 mo.	2 mo.	H.V.	5 yrs.	1 yr.	1 yr.	8 yrs.	3 yrs.	3 yrs.	4 yrs.
5	None	None	None	None	No U.G.	No U.G.	No U.G.	No U.G.	(d)	(d)	(d)	8 yrs.	3 yrs.	2 yrs.	3-12 mo.
6	1 yr.	1 yr.	None	None	No U.G.	No U.G.	No U.G.	No U.G.	(e)	(e)	2 yrs	7 yrs.	2 yrs.	1 yr.	1 mo.
7	None	1 yr.	None	1 yr.	1 yr.	None	5 yrs.	Insl. Res.	1 yrs.	1 yrs	1 yrs	8 yrs.	2 yrs.		*2 mo.
8	3 mo.	1 yr.	6 mo.	None	6 mo.	6 mo.	1 yr.	H.V.	None	1 yr.	6 mo.	6 yrs.	2 yrs.	1 yr.	6 mo.
9	6 mo.	None	None	None	1 mo.	(b)	(b)		None	None	(f)	8 yrs.	4 yrs.	2 yrs.	1 yr.
10	None	None	None	None	1 mo.	1 mo.	1 mo.	None	None (c)	(c)	(c)	8-10 yrs.	2-5 yrs.	2 yrs.	6-12 mo.
11	1 mo.	None	None	None	1 mo.	None	1 mo.	None	None (c)	1 mo.	1 mo.	5 yrs.	5 yrs.	2 yrs	6 mo.

a. After each rain.
b. When opened or damaged.
c. Voltage complaints.
d. No schedule—Left to discretion of Supervisor
e. Load estimated by service count.
f. Load changes noted from commercial repr. report.

INDUSTRY NEWS

Wholesaler Program Outlined to NEMA

"WE HAVE PROVIDED America with its major share of the better life and we have barely got our foot over the threshold of the Electrical Age," stated D. M. Salsbury in speaking to members of the National Electrical Manufacturers Association at their Winter Conference, held recently in the Edgewater Beach Hotel, Chicago.

Mr. Salsbury is president of the Westinghouse Electric Supply Co., and president of the National Association of Electrical Distributors.

He outlined some of the things NAED is doing to help its distributor members do a better job in the electrical industry and emphasized how indispensable the work of the distributor is to the operations of the manufacturer.

Speaking of the human side of the relationship between distributor and manufacturer in the electrical industry, Mr. Salsbury said, "For many of you the distributor is your sales and service organization. It is self-evident that an efficient sales and service organization is indispensable to your operations under today's highly competitive and high cost conditions. It is especially significant in our branch of this interdependent industry that the word 'sell' is synonymous with 'serve.' The distributor has a two-fold problem of service. In a score of ways he attempts to serve simultaneously both his suppliers and his customers. This problem is a difficult assignment when the distributor deals with hundreds of a great number and variety of products sold and serviced in an industry that has made, sold, and served America the world's best standard of living and working. All this was done in just 70 electrifying years. You could say—and still be correct—that our industry has actually transformed our nation in less than 50 years.

"As the key man on the electrical industry's interdependent team, the distributor is placed in a position of great responsibility," Mr. Salsbury declared. "The NAED has developed a Program for Progress designed specifically to help its members do a better service job in all the important phases of their operation.

"The program places increasing importance on the promotional phase of electrical product distribution. It began with the No. 1 postwar problem of basic sales training. As a result of this training, 60,000 men were trained to do a better selling job. Other features of the program at that time dealt with the problems of selecting sales personnel scientifically, efficiency and economy in warehousing, and the related problems of inventory control."

Lighting Clinics' Premier in South

WORLD PREMIERE of the G. E. Lighting Clinics, which are scheduled to tour the country during 1950 and 1951, was held March 7-9, in Jackson, Miss.

Helping to launch the two-year program, designed to acquaint specific groups with the latest in lamps, lighting, and their proper application, were some 1,200 Mississippians from the Jackson area.

The premiere Lighting Clinic was sponsored jointly by the Mississippi Power & Light Company and General Electric's Lamp Department.

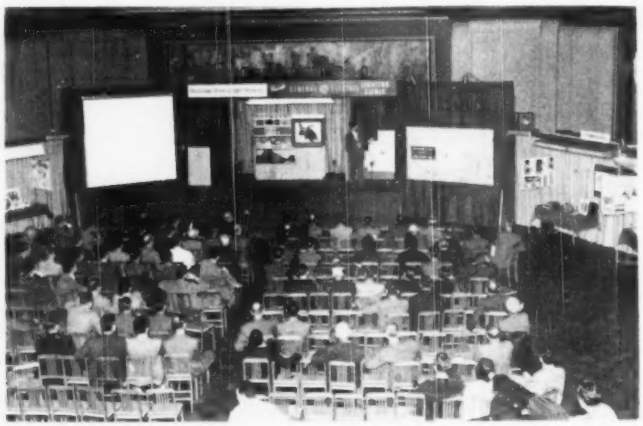
Following a sponsors' luncheon March 7 at the Hotel Heidelberg, the premiere clinic was officially launched with ceremonies in the Victory Room. Among those participating were: Jackson's mayor, Allen C. Thompson; Leslie M. Taylor, vice president of Mississippi Power & Light Company; a charming "Queen of Light," Miss Mary Wright of the utility concern, who formally turned on the Clinic's lights by means of an electronic control box; and a number of representatives from G.E. at Nela Park, Cleveland. Arrangements were supervised by C. M. Broad, assistant to the general manager of the sponsoring utility. Serving as Clinic Director was H. S. Thomas, division sales manager of the utility.

An outstanding feature of the educational event were the 20 "seeing is believing" booths and display areas exhibiting the selected products of 40 leading lighting fixture and portable lamp manufacturers.

Specially constructed demonstration facilities, incorporating the "cream" of exhibits in G.E.'s Lighting Institute at Nela Park, had been trucked down from Cleveland several days before this first Clinic opened.

Included in the various groups at whom the clinic sessions were beamed, were local members of the P.T.A., service clubs, commercial, industrial, and school organizations. The sponsoring utility at Jackson motored as far as 85 miles away to transport special groups to the Clinic programs.

On the clinic "faculty" were representatives of the sponsoring utility company and "doctors of illumina



This view of the auditorium shows a portion of the audience attending a story lighting session during the world premiere of the G. E. Lighting Clinics, held in Jackson, Miss. The clinic was sponsored jointly by the Mississippi Power & Light Company and General Electric's Lamp Department.

NEVER LETS YOU DOWN!

"SECURITY"—THE FRICTION TAPE MADE BY

● For electrical and general purpose jobs, Security Tape will never let you down. Its adhesive compound is not just sticky, but strong and rubbery. To handle tougher jobs, the fabric is unusually high in tensile strength. Security has no pinholes to cause leaks. Straight-tearing, non-ravelling.

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Illinois' thorough control of production methods insures porcelain bushings of high dielectric and great mechanical strength, with utmost accuracy in the control of dimensions. Internal stress is prevented through careful drying and firing at scientifically controlled temperature levels.

Bushings can be standard glaze or radio interference-proof glaze. Dry type bushings are produced for all voltages up to 34.5 kv. Gasket seats are smooth, and ground when required.

EXACT DIMENSIONS

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HIGH DIELECTRIC STRENGTH

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MACOMB, ILLINOIS

Leslie M. Taylor, left, vice-president of the Mississippi Power & Light Co., with George J. Ellis, manager of G. E. Lamp Department's sales district at Memphis, Tenn.

tion" hailing from General Electric's Nela Park headquarters in Cleveland, Ohio. Also present were utility executives from other sections of the country where the lighting clinics will be held.

Highlights of the three-day clinic program in Jackson are as follows: two sessions devoted to commercial lighting on the first day; office lighting and school lighting on the second day; an industrial lighting session and two home lighting programs on the final day.

A. N. Martinson, left, of the Miller Company, Meriden, Conn., with J. M. Ketch, Nela store lighting expert.

"We regard the lighting program as an outstanding success," Mr. Taylor said. "Better light for better sight, for better health and comfort," he pointed out, "is bound to be the ultimate result of general interest shown at the clinic sessions."

What the clinic will have done to bring about better seeing conditions in homes and schools, Mr. Taylor indicated, is in itself sufficient justification for the time and effort spent in conducting the clinic.

Following the world premiere at Jackson, the Traveling Clinic moved to Greenville, Miss., to New Orleans, to Natchez, Miss., and into Texas. Another unit of the Lighting Clinic will begin its tour in the East this spring.

"Go All-Electric" Sales Program

FACTUAL "telling and selling" of the Go All-Electric story to large groups of farm and rural small-town residents will be undertaken this year by scores of power suppliers and electrical dealers by means of new consumer material now being made available by the NEMA Farm Electrification Bureau, 155 East 44th St., New York, N. Y.

This announcement was made by the Competitive Fuels group of NEMA in connection with the annual Winter Conference of the National Electrical Manufacturers Association, held recently in Chicago.

The complete package of consumer material consists of a silent, 35 mm. slide film, two copies of a narration to be read in presenting the film, and 100 copies of a hand-out "facts" folder. This material places major emphasis on showing the customer why electricity is "best by test" for cooking, water heating, and refrigeration. The folder presents the case for electricity logically and in an easily understood, effective, readable style.

The new package is a companion piece to the widely used sales training film material, also being offered by the Bureau, to assist electrical appliance sales personnel in stressing the advantages of electrical equipment over that operated by competing fuels for like purposes. The consumer-type film is a revision of the original film, containing only those frames which are applicable to the customer story as factually presented in the accompanying narration and folder.

Because of its calm and objective approach to the competitive fuels problem, the new package is considered ideal for presentation at con-

2 Great Fixture Series

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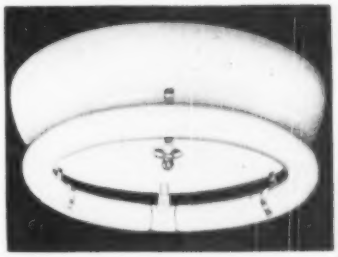
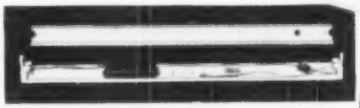
Here's a CIRCLINE you can install anywhere, and be positive it will work; will light up instantly without falter or flicker. No starters to replace. Modern . . . and beautifully designed, you can recommend COMPCO CIRCLINE for any decorative scheme in home, office, or institution.



COMPCO STREAMLINED STRIP-LIGHTS ARE EFFICIENT AND LOW IN COST



BODY-WIRED TO SAVE INSTALLATION TIME

All wiring, sockets and ballasts are fastened to the *strip-light body*. No wiring on cover. Saves installation and maintenance time.

There are no better fixtures for all round utility than these newest COMPCO STRIP-LIGHTS. No matter what the installation calls for . . . walls, ceilings . . . flush or suspension mount, singly or in continuous rows . . . these strip lights are your answer to high efficiency lighting at low cost. You can get them in equally beautiful one or two-light models.

EXTRA COMPCO QUALITY AT NO EXTRA COST

You can't see it here, but once you lay your eyes on a **COMPCO** *fixture you'll see what we mean by* **EXTRA COMPCO QUALITY.** *It's there in the attention to fabricating details, in the hardware, in the wiring, in the nationally known and recognized components. Yes, important too, is the integrity of a company that backs up its products with a rock-bound guarantee of performance. And, you'll buy* **COMPCO** *products at competitive prices.* **WRITE FOR OUR CATALOG AND SEE.**

COMPCO CORPORATION

For the finest in fluorescent fixtures

2251 ST. PAUL AVE., CHICAGO 47

Compco

sumer meetings where various aspects of farm and home electrical use of electrical equipment are under discussion.

NEMA's Competitive Fuels group also will release soon a comprehensive document providing power suppliers with added material for their respective Go All-Electric programs. Features of the brochure will include suggested methods of making competitive fuels surveys, Go All-Electric plans of action, and new advertising layouts.

Atlanta Firm Moves To Larger Quarters

A LARGER WAREHOUSE, covering approximately 10,000 square feet of space, has been occupied recently at 624 Spring St., N. W., Atlanta, Ga., by L. Morris Landers Company, electrical manufacturers' agents serving the Southeast since 1936. New telephone number for the firm is EMerson 5611. Eddie Elsbury will have complete supervision of the warehouse, which the company believes places them in a position to better serve their customers.

The sales staff is composed of L. Morris Landers and B. Allen Bryant, both of whom will have headquarters in Atlanta, and E. F. Lombardi, with headquarters at 2809 Whiting Ave., Charlotte, N. C.

Territory covered by the Landers Company includes the states of North and South Carolina, Alabama, Georgia, Florida, Mississippi, and Eastern Tennessee.

Among the electrical manufacturers represented by the company are Accurate Mfg. Co., Advance Transformer Co., Bright Light Reflector Co., Clifton Conduit Co., Great Western Fuse Co., Marcus Transformer Co., Penn Union Electric Corp., and Union Insulating Co.

Examining Board Named in Wilmington

AN ORDINANCE passed 27 years ago in Wilmington, N. C., which provides for a three-man board of examiners for electrical contractors, finally has been put into effect.

The Wilmington City Council set up the board recently after a group of contractors reminded them that an ordinance stipulating that such a body be named has been on the books since 1923, but that no such group ever had been named.

Chosen to serve on the body are: David Sandlin, city electrician; G. W. (Bill) Graves of the Graves Electric Company; and Claude H. McAllister of the Tide Water Power Company.

Southwestern Chapter, NISA, Elects Officers

NEW OFFICERS for 1950 were elected recently by the Southwestern Chapter, National Industrial Service Association, at their recent meeting held in Shreveport, La. John M. Young, Anderson-Young Electric Co., Lubbock, Texas, was elected president, and J. B. Johnson, of J & J Armature Works, Tyler, Texas, was named new first vice-president. Elected second vice-president was Carl Pons, of Carl Pons Electric Co., Shreveport, La. New treasurer is Gus R. Lieber, Shreveport Armature & Electric Co., Shreveport, La., and elected for the office of secretary was Virgil Goodman, 804 Neil P. Anderson Bldg., Ft. Worth, Texas.

Shops in Shreveport supervised the election meeting, and the next scheduled meeting of the whole chapter is to be in Lubbock, Texas, in September.

New Appointments

NEW DISTRIBUTORS appointed recently by manufacturers include Electrical Repair & Service Co., 2411 First Ave., So., Birmingham, Ala. The firm has been named dealer and certified service shop for Allis-Chalmers motors and controls in Jefferson, Walker, Cullman, St. Clair, Talladega, and Shelby counties in Alabama.

A. S. Brown is general manager and partner in the company, which was organized in 1918.

•

THE FOLLOWING sales representatives have been appointed by Subox, Inc., Hackensack, N. Y., for Subox and Subalox Anti-Corrosive Paints: Williamson Sales Co., Box 1225, Shreveport, La., for Arkansas, Mississippi, Louisiana, Texas, Oklahoma, and New Mexico; and Freeman W. Kennedy, 124 S. W. First Ave., Delray Beach, Fla., for the state of Florida.

•

APPOINTMENT OF additional representatives by Tonne Sales and Engineering Company, Detroit, manufacturers of Thinwall Connectors and Couplings, has been announced. Hopper & McCoy, 454 Marietta St., N. W., Atlanta, Ga., will cover the territory of Georgia, Alabama, Florida, North and South Carolina, and Eastern Tennessee. William E. Jobes, 4242 Glenwood Drive, Indianapolis, Ind., will cover Kentucky and Indiana.

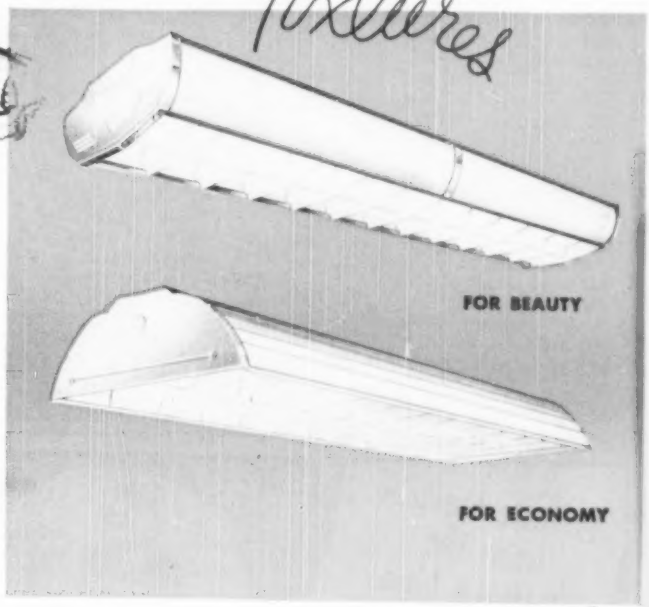
The territory of Arkansas and Western Tennessee will be handled for Tonne by Southland Sales Agents, P. O. Box 165, Memphis, Tenn. Hutson Cokock, 616 Baronne St., New Orleans, La., will cover the territory of Louisiana and Mississippi.

•

ANNOUNCEMENT has been made by Ward-Leonard Electric Co., Mount Vernon, N. Y., of the establishment of their St. Louis branch office, located at 4930 Chouteau Ave., St. Louis 10. Charles B. Durling, Jr., is district manager.

This 10,000-square-foot warehouse is the new Atlanta location of L. Morris Landers Co., electrical manufacturers' agents, at 624 Spring St., N. W. The firm has served the Southeast since 1936, and they hope to better serve their customers from their expanded quarters.

Choose GIBSON Fixtures



THE HIGHLANDER 5200

For sleek, streamlined beauty at low unit cost. White enamel louvers, translucent Polystyrene side panels. Ends and trim in natural satin aluminum finish. Easy to install and maintain. Nearly 80% efficient. Available in 430 MA 48" and 96" lengths.

THE BILTMORE 5500

85.5% efficient by Electrical Testing Laboratory analysis; the most efficient louvered fixture on the market! Parts stamped from 20 gauge or heavier cold rolled steel and finished in hot-bonded synthetic white enamel. Available in 430 MA 48" and 96" lengths.

Newsweek
ADVERTISED IN
TIME

Everywhere —Nashville, Texarkana, Birmingham, Atlanta—schools all over the South are installing Gibson fixtures.

Progressive planners recognize the importance of planned lighting with quality fixtures to the health and mental development of growing young people. Good lighting — Gibson Planned Lighting — decreases eye strain, makes brighter classrooms, happier, healthier students. That is why so many schools have already installed Gibson fixtures.

Gibson features two fixtures especially for school lighting: the neat and sturdy Biltmore 5500 for high intensity lighting at low cost, and the streamlined Highlander 5200 where additional beauty is wanted. Both fixtures are designed for easy installation and maintenance. All components are E. T. L. approved.

As a free service, Gibson will prepare a scientific lighting plan for any school building without cost or obligation of any kind. Write us today.

GIBSON *Manufacturing Co.*
1919 PIEDMONT CIRCLE, N. E. ATLANTA, GEORGIA

NAMES IN THE NEWS

New Orleans Public Service Inc. has announced two changes in sales management. **J. Rudolph Guidroz** has become manager of the Sales Promotion Division and **James L. Campbell** new manager of the Residential Sales Division.

A graduate of Tulane University with a degree in Mechanical and Electrical Engineering, Mr. Guidroz brings 17 years of experience with NOPSI into his new job. At present he is instructor in salesmanship at University College, Tulane University. As manager of the Sales Promotion Division, he will guide the promotional programs of Public Service's Industrial Engineering and Utilization Department.

Mr. Campbell is a graduate of North Carolina State College in Electrical Engineering, and joined NOPSI in 1931, where he has served as lighting engineer, power consultant, general power and gas consultant, and manager of promotion and research. As manager of the Residential Sales Division, he will direct the activities of the Customer Service and Home Service sections.

•

Slater Electric & Mfg. Co., Inc., of Woodside, N. Y., will be represented in the Southeast by **W. H. Berry Co.**, of Atlanta, according to announcement by **S. I. Slater**, president. W. H. Berry Company will serve as manufacturer's agent for Slater merchandise in the states of Alabama, Florida, and Georgia. Mr. Berry reports that he will carry a stock of Slater merchandise in his Atlanta warehouse.

•

Art Hirshman, sales manager, **Compco Corporation**, Chicago, announces the appointment of **Army and Feigel**, of 4209 Parry Ave., Dallas, Texas, as southwest representative for the nationally known line of Compco fluorescent fixtures.

•

George A. Hawkins has been appointed manager of the Atlanta branch of **Fairbanks, Morse & Co.**, Chicago manufacturers. He succeeds **J. C. Elmburg**, who has been transferred to Portland, Oregon, as branch manager.

For the past several years Mr. Hawkins has served as manager of the company's sub-branch at Minneapolis.

•

John E. S. Thorpe, 65, president of the **Nantahala Power and Light Company**, of Franklin, N. C., died in an Asheville, N. C., hospital, February 24, 1950.

A native of Cheshire, England, he moved to the United States with his family when a small boy and received his engineering degree from Johns Hopkins University. After completing his education, he was engaged in the construction and operation of hydro-electric companies in Puerto Rico for several years and spent three years in the same type of work in Mexico.

He first went to North Carolina in 1915 when he was placed in charge of the construction of the Aluminum Company of America's plant at Badin, N. C. At the time of his death he was a member of the board of directors of the Badin plant.

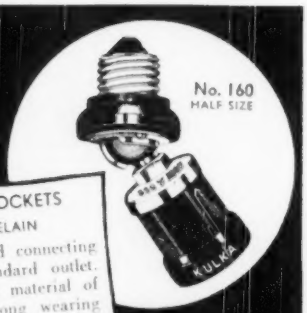
In 1922 he moved to Niagara Falls in charge of the power plant there, and in 1924 became vice-president of the C. P. Hawley Engineering Company of Washington, D. C. In 1926 and 1927 he did research work in Russia for the aluminum company, and in 1928 was in charge of construction of the company's plant at Calderwood, Tenn.

In 1929 he became president of Nantahala company.

Several years ago he was president of the Southeastern Electrical Exchange and also a former vice-president of the Tennessee Section of the American Society of Civil Engineers. At the time of his death he was chairman of the North Carolina State Board of Registration for Engineers and Land Surveyors.

Among his professional memberships were the American Institute of Electrical Engineers and the American Society of Civil Engineers.

Feature Devices from the KULKA Line



ADJUSTABLE SWIVEL SOCKETS
IN BAKELITE AND PORCELAIN

Screw type—with no exposed connecting wires. Screws into any standard outlet. Swivel is of special die-cast material of high tensile strength and long wearing qualities. Wire leads cannot cross or twist. Maximum flexibility in any direction.

Listed by UL and CSA

MOUNTED ADJUSTABLE SOCKET ON ALUMINUM OUTLET BOX COVER
IN BAKELITE AND PORCELAIN

For permanent wiring. Comes with soldered leads or terminals. Has same well-built swivel unit as No. 160 above. Box cover is satin finished aluminum and comes in 3 1/4" and 4" sizes. A very attractive unit.

Write for Information or Catalogue

KULKA ELECTRIC MFG. CO
30 SOUTH ST., MT. VERNON, N. Y.

New Electrical Products

Conduit Fittings

A NEW DIE-CAST type of conduit fitting of aluminum alloy has been introduced by Killark Electric Co., Vandeventer and Easton Aves., St. Louis 15, Mo.

Alumalloy Fittings, as they are called, are uniform, with standard threads that provide added ease of installation and longer service, the manufacturer reports. Their smooth corners provide protection for wire insulation, and improve the appearance of the finished job.

Weighing less than 40 per cent as much as iron, the fittings are easy to ship and handle in the field. They have proven to be tough and durable after time, weather, and strength tests.

The fittings are manufactured in a complete line for all electrical installation needs.

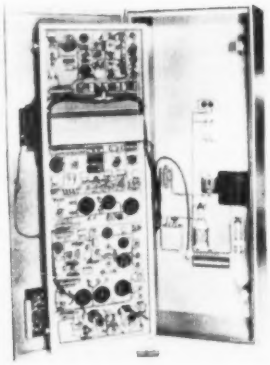
•

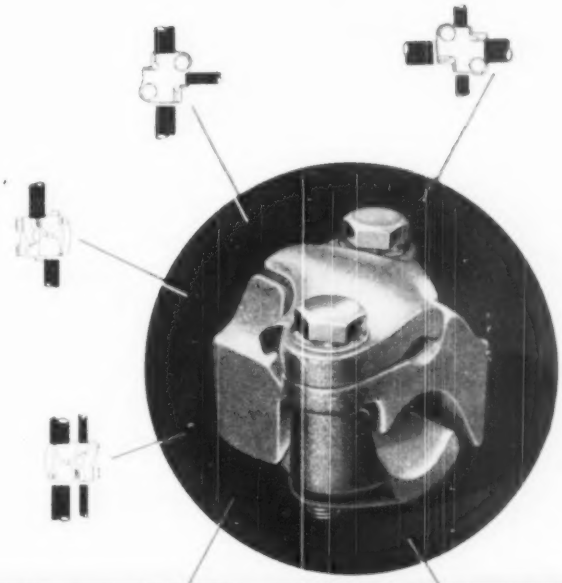
25-Watt Transmitter

A NEW 25-WATT transmitter suitable for use over transmission line channels having a total loss up to 55 decibels has been announced by the Control Corporation, 718 Central Ave., Minneapolis 14, Minn.

The transmitter output is rated at 25 watts. Automatic modulation control utilizing a conventional compression circuit prevents modulation in excess of 100 per cent.

The new unit is available for either single or multiple frequency operation and can be used for supervisory control, telemetering, and communication. The manufacturer claims that careful design has limited frequency distortion in voice transmission to the extent that there is less





how many connectors to make 6 connections?

ONE!

BURNDY

VERSITAP

Send for Cat. 52, a handy guide to better wiring with popular Burndy connectors.

"Cut stock, cut costs" is the current clamor!

So you give Burndy Versitap the job.

One size (10 sizes take cables from #6 to 1000 Mcm)

Connects a wide range of cable combinations

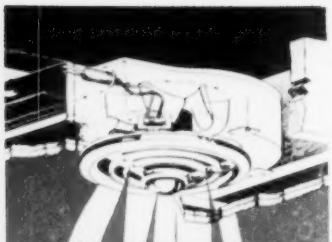
In tap, tee, cross or end-to-end arrangement.

Results are better too—electrically and mechanically.

And . . . you've found one way to cut stock, cut costs.

See your local Burndy Distributor.

BURNDY NEW YORK 54, NEW YORK



Take advantage of

Blo-Fan

SUPERIORITY

Blo-Fan offers you larger profits because . . .

1. Blo-Fan is easier to sell.

2. Blo-Fan is easier to install.

3. Blo-Fan makes satisfied customers.

For 25 years Pryne & Company has been satisfying home owners by making *superior* ventilating fans designed particularly for home use.

Take advantage of Blo-Fan features and reputation—extra profits are waiting if you will merely mention Blo-Fan ceiling ventilators to your customers.

Compare these features!

Only Blo-Fan has the nine-position control switch which permits operation at the exact speed required by the degree of air pollution.

Only Blo-Fan has the patented blade which combines the volume of a fan with the power of a blower.

SPOT VENTILATION at the point of AIR POLLUTION IN THE KITCHEN, BATH, GAME ROOM, LAUNDRY

*Trade Mark Reg.

Manufacturers of Pryne Lites recessed lighting fixtures

Factories: Pomona, California; Newark, New Jersey
Warehouses: Los Angeles, San Francisco, Chicago
Stocked by more than 500 wholesalers in over 350 cities

Write for name of the distributor near you

PRYNE & CO., INC.
BOX 54, POMONA, CALIFORNIA

than 10 decibels variation of receiver output level between 300 and 3,000 cycles. The receiver automatic volume control will hold the audio frequency output constant within plus or minus 2 decibels with a 50 decibel change in the carrier frequency input.

The new units are suitable for connection to either a PBX switchboard or an extension telephone.

•

Floodlighting Units

A NEW LINE of floodlighting units for farm and home, coupled to a new General Electric Remote Control, has been announced by The Steber Manufacturing Co., Broadview, Ill.

Single, two-lamp, and three-lamp units embodying the Steberlite Lamp holder for PAR-38 reflector-type lamps are available.

Any number of remote control switches may be installed at convenient locations around the farm or home, and lights can be turned on or off from any of these points. The switches operate on 24 volts, provided by a transformer which is an integral part of the remote control. Three-wire switches provide positive indicating "off" and "on" switching. Touch the top of the switch button, lights are on; touch the bottom, lights are off. Inexpensive, low voltage switch wire may be run underground or overhead. The same wire is used for indoor wiring without conduit or switch boxes.

•

Box Cover Switches

NEW BOX COVER switches for 3¼- and 4-inch boxes have been announced by Pass & Seymour, Inc., Syracuse 9, N. Y.

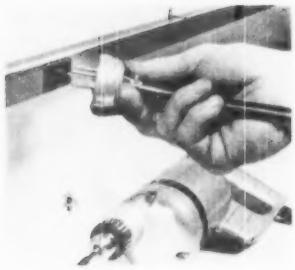
All switches have positive kick-offs, arc-snuffers, pre-loaded contacts, and high velocity mechanisms. Available in full 10 ampere, 125 volt rating, the switches are available in three types: T-rated switches, made of black bakelite; non-T-rated switches, made of brown bakelite; and oil burner switches of red bakelite.

•

Plug-In Strip

TO SUPPORT the increasing trend for grounded electrical systems, National Electric Products Corp., Chamber of Commerce Bldg., Pittsburgh 19, Pa., is introducing a new Plug-In Strip with grounded receptacles.

In addition to providing a spread of electrical outlets at either 6-inch or 18-inch intervals, the new multi-outlet assembly offers industries,



stores, institutions, and home owners the opportunity of plugging in grounded or ungrounded portable electrical equipment in every receptacle.

According to National Electric, the basic construction of Plug-In Strip has not been changed since its initial presentation a year ago. However, in addition to the conventional two slots in each receptacle, there is an adjacent third slot. Beneath this aperture is a copper insert that is securely mounted to the multi-outlet's steel base, affording a positive grounding facility.

This construction allows the use of a standard 2-blade plug, or the Series 5200 3-blade grounding plug, made by device manufacturers.

To achieve a thoroughly grounded electrical system, the Plug-In Strip must be installed with a positive ground to earth, says the manufacturer.

•

Control Center

NEW STANDARDIZED control centers containing motor starter units for the centralized control of groups of machines, are available from Westinghouse Electric Corporation.

These starter units feature plug-in type disconnects on the line side—a real safety advantage. All starter units are 20 inches wide by 20 inches deep, with heights in multiples of 14 inches for interchangeability in standard indoor structures either 76 or 90¾ inches high. Starter units can be mounted back-to-back in these same structures for the most efficient utilization of available space.

Starter units can be locked in a positive tilt-out position, disconnected from the line. New self-connecting Magna-Grip bus connectors automatically connect the line terminals when the starters are inserted. Guided insertion assures proper seating of the bus connectors.

Individual starter units are baffled from each other for added safety in keeping short circuits localized.

Macy's Flexible Lighting System

(Continued from page 20-B)

ample, it can be used individually as a 2x4 unit, side by side as a 4x4 unit, or placed end to end to make a 2-foot-wide fixture and combined with any trofter length desired. The flexibility of the arrangement was a boon to irregularly shaped areas because countless combinations of the basic unit could be devised."

An excellent example of the use to which the highly pliable system has been put exists in the store's Penthouse Beauty Salon, where, in addition to over-all, egg-crate ceiling fixtures, lights were run in a U shaped trofter directly over styling booths. Contrasting this system is the drug department layout set up which forms an end-to-end unit designed to fit the unusual contour of this area.

Supplementing general lighting are a series of special ceiling accent units. The 4x4 fluorescent unit, furnishing general lighting for such high-fashion departments as jewelry, ladies' shoes, gloves, etc., is teamed up with incandescent accent fixtures which highlight the outstanding features of this merchandise. From thirty to forty feet of general illumination is frequently augmented with accent fixtures, cove lighting, specialty lighting and showcase fixtures.

"Showcase lighting is composed of cold cathode tubes or fluorescent slimline tubes," pointed out John Kelley, "in small-sized reflectors which provide a minimum of obstruction to the view of merchandise in cases.

"This installation was strictly a custom-built one designed to meet particular requirements whether in stockrooms, workrooms, restaurant, beauty salon. But because of the flexibility of the basic unit, fixtures can all be smoothly changed to meet any modifications. Thus, one basic fixture can, by a series of simple steps, supplant five or six specially designed fixtures.

"Not only does this feature promote a saving in fixture costs, but it lowers maintenance expense. Because fixtures are standardized, the store is able to buy in large quantities. It is necessary to buy one type ballast, one type tube, one size of egg-crate louver. From these single types, it is possible to make a number of fixture variations. The initial installation expense was lower because there were no special gadgets to buy to hold parts in place. Because parts were standardized, we could order parts in quantities of 2,000 or more and get a better deal with the manufacturer."

Throughout the store there are other examples of the excellence of lighting. In the 63-seat Soda Grill, fourteen recessed lens lights, spaced eight feet apart, and equipped with 300-watt incandescent bulbs, are combined with ten wall-mounted bracket fixtures. The bracket fixtures beam illumination ceiling-ward, create a decorative touch, and also tend to give the relatively low quarters more height.

Recessed fluorescent cove fixtures fitted into the acoustone ceiling highlight special areas of the foundation layout and also conceal air grills through which air returns to the air conditioning unit.

Lighting is the dominant characteristic of the seventh-floor Garden Tea Room where general illumination is supplied by recessed edge-louvered fixtures fitted with reflector flood lights. Side louvers eliminate pin-point brilliance.

One of the many excellent touches of this lighting setup is the brace of cantilevered bracket lights which reflect illumination from a perforated dome in the ceiling. A bronze cone, suspended beneath the dome, completely conceals the light source.

Fan Application Principles

(Continued from page 25)

size to avoid short-circuiting the general movement of air from the opposite ends of the room. This is illustrated by Figure 3.

In wide buildings it will often be found advisable to install two or more smaller fans in preference to one large one. These should be located to move the air in the same general direction to avoid cross currents and consequent loss of efficiency. This is illustrated in Figure 4.

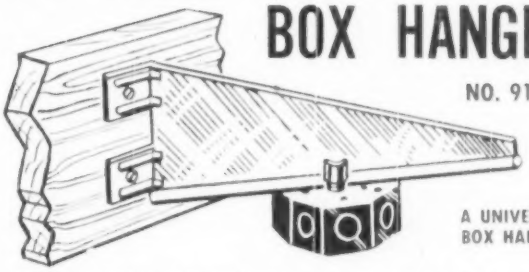
When exhaust fans are used principally to dispel heat or odors emanating from some particular piece of equipment or process, they should be located as close to the source as possible.

Two-speed fans will be found most suitable in the majority of installations as the speed regulation feature permits the owner to regulate the amount of ventilation according to varying requirements.

In selecting fan equipment, it is always advisable to install a fan or fans with sufficiently large capacity to handle the task with ease. Excess

There's an Easier Way!

use **KEES** *adjustable* **OUTLET BOX HANGERS**



NO. 9139

A UNIVERSAL BOX HANGER

Yes, Kees adjustable outlet box hangers are easier, and quicker, too! There's no need to notch the joist for "offset" Kees hangers may be fastened to higher or lower side of joist. Box may be adjusted to any position from close to ten inches out from joist.

Can be used for mounting any type of box and fixture from any type ceiling using any wiring.

More easily installed than a bar hanger. Fastens to joist with 3 nails. Bracket is heavy pressed steel ten inches long. Three inches wide at nailing end. Rigid and amply strong. Lower edge is formed into tube on which the fixture-stud slides. Stud can be positioned exactly. Comes complete with fixture stud and over-size notched locknut. (Outlet box not furnished). Write for complete information.

Since 1874

KEES

Write Dept. ES-5 For Free Catalog

F. D. KEES MFG. CO. BEATRICE NEBRASKA

over the counter

slater sells

on the job

slater serves

No. 297
Porcelain

featuring

duplex screws!

No. 277
Bakelite

No. 280*
Bakelite

*New one piece combination, specification grade, using now-famous removable Slater No. 215 interior.

No. 294*
Porcelain

Whether you are a consulting engineer specifying Slater, or a jobber selling Slater devices, you always have a feeling of confidence that you are backed by twenty years of sound engineering experience, the smoothest production methods, and a certain built-in longevity that has brought meaning to our claim of "Lifetime".

New 1950 catalogue on request.

Slater ELECTRIC & MFG. CO. Lifetime Quality Devices

Dept. 1, Woodside, N.Y.

Fla., Ga., Ala. Representative:
W. H. Berry Co., 45-47 Alabama St., S.W.
Atlanta 3, Ga.

capacity is an advantage. Insufficient capacity defeats the whole purpose of the installation.

Fans with Ducts

Where ducts must be used, they should be as short and direct as possible, as each bend and elbow increases the resistance and reduces the fan's efficiency. Ducts should be of ample size, preferably round and not smaller than the diameter of the fan. If rectangular, they should be as nearly square as possible and have 40 per cent to 50 per cent greater area than the area of a circle of the same diameter as the fan used.

Always install the exhaust fan at the discharge end of a duct. Air turbulence will add materially to the noise and will reduce the air delivery when the fan is mounted on the intake end discharging into the duct.

Static pressure is the measure of resistance to the flow of air through a duct, caused by friction of the moving air against the surface of the duct. Such pressures are generally relatively small pressures and are expressed in units of "inches of water" rather than pounds per square inch.

Static pressure increases with the velocity of the air, consequently duct area should be as liberal as possible. Air deliveries given for low-speed operation in Table 4 do not represent air deliveries against static pressures given in the heading of the table, since the pressure is less at low speed, but do represent the delivery at low speed under conditions where the high-speed pressure is as shown.

For example, a 24-inch direct-drive exhaust fan operating at 860 revolutions per minute (high speed) against .1 inch static pressure delivers 3,600 cubic feet per minute. On low speed, at 570 revolutions per minute, under the same conditions, the static pressure drops to approximately .044 inches and air delivery is 2,500 cubic feet per minute against the reduced pressure.

How to Calculate Fan Size

Consider as an example a room 45 feet by 29 feet, with a 10-foot ceiling, having a cubic volume of 13,050 cubic feet. To provide 10 air changes per hour through a duct 10 feet long with one 90-degree elbow, the calculation would be made as follows: The volume of the room times the number of air changes would give 130,500 cubic feet per hour to be removed by the fan. Referring to Table 3, it is found that 10 feet of round duct offers resistance of approximately .015 inches of water. The single 90-degree elbow will offer a resistance of approximately .020 inches of water. The total static pressure resistance is approximately .035 inches of water.

Changing the volume of air per hour into cubic feet per minute (130,500 divided by 60), we find that a fan having a capacity of 2,175 cubic feet per minute against a static pressure of .035 inches of water is required. Referring to Table 4, it is found that an 18-inch fan will deliver 2,150 cubic feet per minute against a static pressure of .05 inches of water. On low speed, it will deliver 1,650 cubic feet per minute or approximately 7½ air changes per hour.

As shown in Table 3, this 18-inch fan may be installed either with an 18-inch diameter round duct or with a rectangular duct of 18 inches by 22 inches.

FLUORESCENT SALESMEN

Well known northern manufacturer setting up another plant in South. Salesmen wanted for Ga. and Florida, Tenn. and Ala., Miss. and La., and Texas. Complete highly competitive Line. State lighting experience and what lines carried now. Reply to Box 641 ELECTRICAL SOUTH, 806 Peachtree St., N.E., Atlanta 5, Georgia.

"SHERCO" Staple Says . . .

Use SHERCO Staples and leave *wood-splitting* to the Lumberjacks. My sharp, round legs drive easily, hold tight and prevent the wood from splitting.

For *Goodness* sake, insist on Genuine SHERCO Staples, packed clean and dry in plain or Hot Dip Galvanized Finish.

Write for full particulars on other Electrical Fastening Devices.

Distributed through Electrical Wholesalers.

SHERMAN MFG. COMPANY, INC.
St. Louis, Mo.

Wiring Conference

(Continued from page 21)

who are interested in getting a job at any price regardless of the consequences to their reputations and to their customers.

Scott and a number of other contractors in the audience held that other branches of the industry are to blame for the cut throat, cut-rate competition between contractors, while Davis and various utility representatives said that contractors primarily are to blame for refusing to sell installations "up." All were agreed that the solution lay in industry-wide co-operation and in a determination of all groups to overcome differences—whether imagined or actual.

Other presentations included a four-way keynote panel on the subject, "These Things We Must Do." Lyle Foster, head of his own contracting business in Peoria, and chairman of the Peoria Adequate Wiring Bureau, emphasized that good will is the foundation of the contractor's business and that the best way to obtain good will is to sell adequate installations.

N. J. MacDonald, vice-president of The Thomas & Betts Co., and chairman of the National Bureau, stressed that manufacturers can most effectively increase their markets by expanding the markets for all. Adequate wiring promotion, he pointed out, is one of the most effective tools available for expanding business.

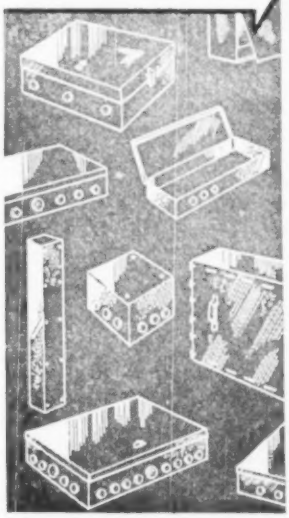
And wholesaler K. E. Greene, president of the Mount Vernon Electric Supply Co. in Mt. Vernon, Illinois, stressed that wholesalers must be the spark plugs in rural areas if adequacy is to be sold to farmers. Wholesalers are the key contacts with rural contractors, he said. It therefore lies with them and their trained sales staffs to help spread the "gospel of good wiring."

J. M. Mooney, wiring consultant of Louisiana Power and Light Company, described his organization's long-term program for selling adequate wiring to the public. Some of the company's efforts are aimed directly at customers; others are slanted at industry members, builders and architects. To reach customers, he explained, the utility used newspaper advertising, direct mail, window displays and group presentations.

Company sales people also call on interested home planners and remodelers to discuss the benefits of adequate wiring in detail. To reach industry members, builders and architects, the company holds meetings throughout its territory.

Results of the utility's 8-month-old program have been excellent. During

A NAME GROWING BIG —ELECTRICALLY



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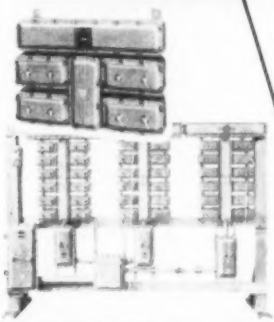
Complete Line
EXPLOSION-PROOF
DUST-TIGHT
Class 1, Groups C & D



Meet ALL Standards PLUS

INDIVIDUAL PANELS up to 32 circuits and factory assembled groups of two or more standard panels as illustrated . . . also waterproof types.

COMBINATIONS of one, two, and three pole branch circuit breakers . . . wiring systems as specified.

CIRCUIT MARKED switch handles, liberal size directory frames.

FRONT PANEL OPENING permitting complete access to solderless type terminal blocks and close grouping of adjacent panels.

STAINLESS STEEL cover bolts and aluminum gray, corrosion resistant baked enamel finished enclosures.

CONDUIT OUTLETS factory plugged to exclude dust, dirt and moisture prior to installation.

DEPENDABLE OPERATION insured by 48 years of design and manufacturing experience.

Write for Catalog H47.

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For use in locations where highly flammable materials are manufactured or handled.

Rugged, flame-tight cast aluminum alloy housings render internal explosions harmless, and insure safe operating temperatures. Threaded construction permits easy access to interior for wiring and lamp replacement. Available in many types and sizes.

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For use in locations where flammable dusts are present in quantity.

Strong, one-piece cast aluminum alloy housings are designed to exclude dust from the interior and to avoid accumulation of dust on the exterior surface. Available in many types and sizes.

Consult the new PYLET Catalog for complete line of explosion-proof supporting PYLETS for lighting fixture mounting.

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this period, he pointed out, "our sales people prepared 542 wiring layouts, of which 315 were for residences. The balance were for commercial and farm buildings." Practically all of the company's wiring recommendations have been followed, he indicated. Thus, Louisiana Power & Light feels that its efforts and investment in wiring promotion are paying off.

O. K. Coleman, engineering consultant for Edison Electric Institute, discussed the *EEI-AEIC Report on Branch Circuit Over-Current Protection*. He explained the proposal made by the Committee in relation to the extension of branch circuits of No. 12 wire protected at 20 amperes to all rooms of the house. He also summarized the research data on which the proposal is based.

J. R. Poteat, manager of General Electric's range and water heater division, stressed that the industry needs the 80,000 to 100,000 retailers in the country on the adequate wiring promotion team. Aside from the utility personnel, "electrical retailers are the most numerous consumer contact group in the industry," he pointed out. It is therefore imperative that the co-operation of retailers be won if the adequate wiring objective is to be achieved.

The conference concluded with an open forum discussion, led by Norman Wicks of the National Bureau, on various subjects introduced from the floor, and a presentation of the National Adequate Wiring Bureau's 1950 program by Frances Armin, director of consumer education. Miss Armin described the new consumer pieces to be offered by the Bureau, a new folder to win greater contractor participation, the trade paper advertising scheduled for construction magazines, the trade advertising to home economists on adequate wiring teaching material, and the news releases to be offered in 1950.

She emphasized the increasing industry and consumer interest in adequacy as reflected by the paid circulation of the Adequate Wiring Reporter which has increased 2,000 copies per issue in the last two months and brings the grand total to approximately 16,000. Consumer interest, she pointed out, is likewise reflected in the more than 600 orders received monthly from teachers for AW material and in the 558 requests received from daily and weekly newspaper editors for the Bureau's most recent feature release.

The two-day conference was concluded by O. C. Small, manager of the National Adequate Wiring Bureau, who thanked the delegates and speakers for their contributions to the program. General chairman of the meeting was A. H. Kessler, secretary of the North Central Electrical Industries in Minneapolis, and president of the International Association of Electrical Leagues.

IES Conferences

(*Continued from page 30*)

customer and start thinking about helping him. The market can be found by walking down the street in any city and counting out-of-date installations, he said.

F. L. (Tug) Wilson, sales manager for the F. W. Wakefield Brass Company, of Vermillion, Ohio, had the topic, "Planned Lighting Promotion for Schools and Offices," but he spoke only briefly.

"The only difference in selling lighting and engineering for an office

SLIMLINE & FLUORESCENT BODIES

STA-BRITE FLUORESCENT MFG. CO.
325 NW 22nd Lane, Miami, Fla.

ABSORBS VIBRATION

NEW Neoprene Pad Brush *cuts* **BRUSH REPLACEMENT**

FOR MOTORS SUBJECT TO OUTSIDE VIBRATION, here's a new Helwig-Speer development that gives you longer brush life, better motor performance, less commutator grinding. The spring hammer rides on a Neoprene pad that absorbs all vibration, saves spring fatigue, reduces sparking. Write for new Catalog 95. Or call your nearest Helwig office.

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St. Louis	1913 Washington Ave., Ch. 6510
El Paso	708 N. Piedras St., Main 7645

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Makers of Multiflex and Transert Brushes

or a school is that in the latter the people are smaller," he asserted.

"It is not a question of buying any one thing for a school, but it is the matter of a problem to be settled after viewing it from all angles. For the school there must be a plan, not the procedure like that of going to a doctor with your ailment and having him offer you your choice of 15 different medicines.

"Today, visual environment is a subject that is constantly discussed in the faculties of all schools. In fact, when I get with the faculties of schools, I hear more about proper lighting than I hear in an IES meeting."

Two experts in the field of plastics led off in the technical conference which occupied the delegates in the second day of the convention.

"The Use of Thermoset Plastics in Lighting" was the subject of Dr. M. H. Bigelow, technical director of the Plaskon division, Libbey-Owens-Ford Glass Company, Toledo, Ohio.

Recalling that plastics came into the picture in connection with lighting fixtures about 1932, he described the process of production, showed samples of his firm's product as used and employed slides to illustrate installations. Thermoset plastics have high resistance to heat, change dimensions only slightly in response to temperature changes and "are the best from all viewpoints," he concluded.

"Thermoplastic Materials in Lighting" was discussed by Dr. O. L. Pierson, head of the design and fabrication laboratory, Rohm & Haas Company, Philadelphia, Pa.

He, too, went into detail on the technique of production and adaptation and expressed the opinion that Plexiglas would speak for itself. He said the material has outstanding features that he enumerated, unavailable in others, and is dimensionally stable. He employed a large number of slides to demonstrate lighting and advertising applications.

Two spots on the program were also assigned to A. C. Barr, specialist in the development and application of fluorescent, slimline and cold cathode lighting for the General Electric Company.

His first address, "Color in Lighting," was highly technical and in this he used slides, with graphs, for analyzing the spectrum and delineating the sources of color in lighting. In his rapid and comprehensive style of delivery he imparted a mass of information and, in addition to slides, used two shadow boxes, into which he put red carnations, a steak, and a man to demonstrate cool, white, and warm white light, on standard and deluxe.

In his second talk in the afternoon of the same session, "Fluorescent Lamp Development," he used multiple installations to demonstrate safety, starting and other factors.

He traced fluorescent development from the beginning to the instant-start lamp, but said there was never a great saving on the instant-start since a 10 per cent penalty is involved on both installation and operation. He devoted some time to the trigger-start, and to two of the same in series, and the Slimline eight-footer is a natural instant starter and opined that the 96-T12 Slimline solves a good many problems.

Concluding, he said: "The color rendition and the complications of fluorescent have been solved. As a result of market and field experiences, we have come into an era where we have refinement of this invention. The fluorescent light is no longer a problem."

F. C. Altree, manager of the engineering department of the Pittsburgh Reflector Company, Pittsburgh, Pa., said that although incandescent and fluorescent are two quite different tools of lighting, both sources have their places and can be used in combinations for downlighting. His subject was, "Designing Downlighting for Commercial Interiors."

"Downlighting is most effectively used in merchandising establishments," he said, "and although it is not direct, it is directly controlled. It is most effective where accent light is needed, in which case the light should be ten times that of the general level of brightness."

Using slides, he showed a number of installations in which downlighting was used for dramatization, or to glamorize a subject or provide background lighting.

"Like other lighting projects," he said, "downlighting must be planned. You must study the requirements, methods by which results are to be obtained and equipment necessary to obtain them. Design and application of downlighting have made remarkable strides in the last decade and you can expect an equal amount of progress in the next decade."

The technical session closed after a presentation by a number of representatives who, using slides, showed the "Best Southwestern Lighting Installations of 1949." Those participating were:

R. A. Horsberger, Gulf States Utili-

Revere ELECTRIC MFG. CO. CHICAGO offers

THE LATEST IN STREET LIGHTING

TWO CLUSTER UNIT

WHITEWAY PYLON-LITES
Mounted Singly or in Clusters of two or three

- MAXIMUM HORIZONTAL DISTRIBUTION
- SERIES OR MULTIPLE CIRCUITS
- BRILLIANT LIGHT AT LESS COST
- DESIGNED TO OPERATE IN ALL KINDS OF WEATHER
- EACH LUMINAIRE EMPLOYS SIX 40 WATT FLUORESCENT LAMPS

Write for CATALOG DATA IMMEDIATELY

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INDOOR AND OUTDOOR LIGHTING EQUIPMENT TO SERVE EVERY NEED

ties Company of Beaumont, Hal Hodges, General Electric Company, Houston; James D. Hampton, Oklahoma Gas and Electric Company, Oklahoma City; Floyd Covington, City Public Service Board, San Antonio; R. K. Lathrop, Southwestern Gas and Electric Company, Shreveport, La.; A. L. Anderson, Texas Electric Service Company, Fort Worth; John Deck, Jr., Texas Power and Light Company, Dallas; H. E. Lund, Southwestern Public Service Company, Plainview and A. A. Stoltz, Dallas Power and Light Company, Dallas.

Chairmen of the four separate sessions were: C. A. Eltum, commercial manager, Dallas Power and Light Company; C. B. Barron, Gulf States Utilities Company, Wm. H. McAdams, George E. Anderson Company, Dallas; Harry G. Hrivnatz, Houston Lighting and Power Company.

Floyd A. Covington, regional vice president, presided at the technical session luncheon, at which time he announced that it is planned to call the 1951 conference at Corpus Christi, Texas.

Other Southwestern officers are: Harry E. Frazier, chairman, Alamo chapter; Hrivnatz, chairman, South Texas chapter; Howard Ernst, chairman, Rocky Mountain chapter; McAdams, chairman, Southwestern section.

Mobile Shop

(Continued from page 26-D)

often necessary to get them accustomed to using the portable shop. I have a personal preference for using a trailer shop on the job, and I have been able to obtain tangible evidence that it increases profits, usually results in a job being completed faster, and saves plain money in overhead costs in truck maintenance and gasoline."

White Crane has three trucks and one large trailer in operation at the present time and expects to eventually have enough shop trailers to use on all the jobs large enough to justify it.

The shop trailer does not supplant the regular trucks, Crane pointed out, but it does make it possible to use the facilities of mobility on the small trucks on jobs where mobility is needed.

"On small jobs it is often an advantage to be able to have an electrician pick up his tools and get in a company truck that is properly supplied and equipped and go to another job. This is the only way to profitably handle a number of small home wiring jobs along with commercial work when jobs are far apart," Crane said.

The unusual name of White Crane always attracts attention and it has been the cause of obtaining much business throughout the 20-year span of the company, particularly when used on the trailer shop.

The firm started as a partnership, and the other partner's name was White. Thus named the company White Crane, eliminating the hyphen. Later Crane purchased the interest of White and for many years has been the sole owner of the business, but he is still known, remembered, and called White Crane.

The business of the company is about evenly divided between residential and industrial work. Although the area in which he is located is nationally known as a resort and vacation area, where fishing and boating predominate, there are also a large number of factories in the territory. Resort cabins and commercial establishments use a lot of wiring.

In his own town there are shoe factories, cheese factories, and paint

FAST-LOK all purpose adjustable BAR-HANGER with "SNAP-ON" STUD

Sure they cost pennies more, BUT if they cost a quarter more you would still SAVE MONEY by using **FAST-LOK** ADJUSTABLE BAR-HANGERS with SNAP ON STUDS (Patented).

What a time-saver over old-style rigid type bar hangers!

- NO CARPENTRY WORK!
- NO TAKING APART OF FIXTURE STUDS!
- ONE INVENTORY! (Same BAR-HANGER for all depths and widths)
- EASY INSTALLATION!

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GROUND RODS

5/8" x 8'

The finishing touch to a first-class job

THE MARK of a good electrical job well done is a DIXISTEEL Galvanized Ground Rod.

Sharp-pointed for easy driving . . . hot-dip galvanized for positive protection against rust. 5/8" x 8' size carried in stock. Other sizes available.

Write or telephone collect for prices.

Atlantic Steel Company
MAKERS OF DIXISTEEL SINCE 1901
ATLANTA, GEORGIA

factories, as there are in neighboring towns.

One of the things that keeps good industrial accounts on the books, according to Crane, is neatness and promptness.

"We go to almost any lengths to do a neat and painstaking job in any factory in which we work, and we find that this feature is longest remembered and results in new work," Crane said. "Promptness is important, but secondary. I find that a factory manager will wait to get an electrician whom he knows will do a neat job that will look good for years rather than take a fast one who will patch up a job and leave in a hurry. Stockholders and owners have a way of dropping in on factories and asking questions when they see evidences of sloppy and careless work that no one looks bad but may even be a fire hazard," Crane continued.

New trailer shops being planned by Crane may use a painting of a white crane as a trademark, but even as it is people passing by a construction job and seeing one of his trucks or the trailershop carked usually remark, "White Crane—I see that bird has another wiring contract!"

Planned Maintenance

(Continued from page 48)

(5) Underground: a 1-month schedule of inspection is recommended for vaults, including temperature, protector contacts and operations, splices, secondary lines and paint. A 2-month schedule for service limiters, load checks and voltage tests. 1-year schedule for transformer pressure, sidewall, primary switch, relay tests, and automatic breakers.

(4) Meters: the test and repair schedule set up by our meter department is, more or less, in line with the practice of our utilities. Therefore, I recommend that schedule. Self contained meters are tested at 8-year intervals. The demand group is divided into three classifications with test schedules of 4, 2 and 4 years. Small instrument types are tested and checked annually. Large primary meters are on a 3-month test schedule.

Please remember that scheduled inspections, to be worth while, should be followed by scheduled maintenance.

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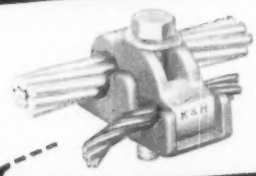

THAT LINEMEN LIKE . .

UNIVERSAL Tap Connector
Made in 3 Surface Finishes
Approved by Engineers and Contractors doing R E A work

Effectively used as guy line ground, or transformer and lightning arrester connection to A.C.S.R. or copperweld conductors where the diameter may be from 3-A copperweld to .595" A.C.S.R. armour rods.

ADAPTABLE TO A WIDE RANGE OF USES

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KRUEGER & HUDEPOHL
Solderless Terminal Lugs and Connectors
VINE AT THIRD—E.S. • CINCINNATI 2, OHIO

ALWAYS SPECIFY THE BEST
WHITER THAN WHITE
ABOLITE Lighting
• Industrial
• Commercial . . . Floodlighting
• Pump Island Installations
The JONES METAL PRODUCTS CO.
WEST LAFAYETTE, OHIO
Sold Exclusively through Electrical Wholesalers

Twenty Years experience in electrical supervision, maintenance, estimating, blueprint reading, takeoffs, general construction in electrical work covering residential, industrial and commercial. Capable of handling any responsibility in this field. Desire immediate employment, good references. Write Box No. 640 ELECTRICAL SOUTH, 806 Peachtree St. N.E., Atlanta 5, Ga.

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If it's fluorescent
MAKE IT SLIMLINE
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Extraordinary SERVICE

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Getting exactly "What you want, when you want it" may be worth thousands of dollars to you in emergencies. Yet this service is yours for the asking at SOUTHERN CARBON BRUSH. Whether your order is "emergency" or routine, you'll be pleased with our results.

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—another successful seller of American Blower Ventilating Equipment

In a business that serves as many and as varied ventilating needs as does the Robinson Electric Company, Charlotte, North Carolina, quality of products, expert installation and prompt service pay off in profits.

"We have sold American Blower Products since 1921," says Mr. Robinson, president, "because of their public acceptance, their excellent performance, the competence of their engineering staff and the continuing customer good will that they have built for us over the years."

There is a big, rapidly expanding market for ventilating equipment. You can profit *most* in it by selling time-proved, top-quality American Blower Products. Phone the nearest American Blower Branch Office today.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICH.
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Model C Ventura Attic Fans—Built in capacities up to 21,500 cfm for either vertical or horizontal operation. Low power consumption, quiet operating.

Utility Sets—Fine air supply or exhaust fans in stores, wholesale etc. Have Adevon Control for regulation of air flow. Capacities from 515 to 17,925 cfm at ½" SP.

Model A Ventura Fans—Smartly styled. No exposed wiring. Smooth, easy-to-clean surfaces. Built in capacities from 1000 to 9500 cfm free-delivery blades.

SELL QUALITY!

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Air Handling Equipment

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER
CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

GREATER STRENGTH CUTS RISK OF LAMP BREAKAGE

Buy McGill lamp guards and you've got the best . . . the strongest . . . the longest lasting guards you've ever seen. Compare McGill with any other guard. Point for point — in cages, handles, sockets or cords — you will see the superiority of McGill that means longer service and better protection from lamp breakage. No matter what your guard needs may be, there is a built-to-be-better McGill lamp guard to fit the bill exactly.

Model 7000-SR

The most popular series made. Has strong wire cage and molded rubber handles. Strain relief disc protects cord terminals. The same construction with wooden handles is available in the 8000 series.

"AVAILABLE FROM YOUR ELECTRICAL WHOLESALER"

For McGill Catalog No. 49 write to McGill Mfg. Co., Inc., 650 N. Campbell St., Valparaiso, Indiana

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WANTED — SALES MANAGER ELECTRICAL DEPARTMENT

Largest and oldest electrical wholesaler in South has this position open now. This company offers:

- Pension and Retirement Plan
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- Annual Bonus Plan

Here is a real opportunity for a man who can build a hard hitting department in a territory with real potentiality. Headquarters in New Orleans.

Applicant should be 35—45 years of age, degree in electrical engineering preferred. We want a man who has been successful in managing and building an electrical jobbing operation, but is looking for an opportunity for growth.

For interview, give complete and detailed outline of education, past experience and references in first letter. All replies held confidential. Address Box 639, Electrical South, 806 Peachtree St. N.E., Atlanta 5, Ga.

Handbooks of Adequate Wiring

Two valuable booklets available with Electrical South.

"Handbook of Residential Wiring Design" and "Handbook of Farmstead Wiring Design" summarizing the latest authorative information on adequate wiring systems, may be obtained with a three-year subscription to Electrical South at the special price of $2.50 for a limited time. Send name, address, and remittance at once to make sure of getting your copies.

ELECTRICAL SOUTH

806 Peachtree St., N. E. Atlanta 5, Ga.

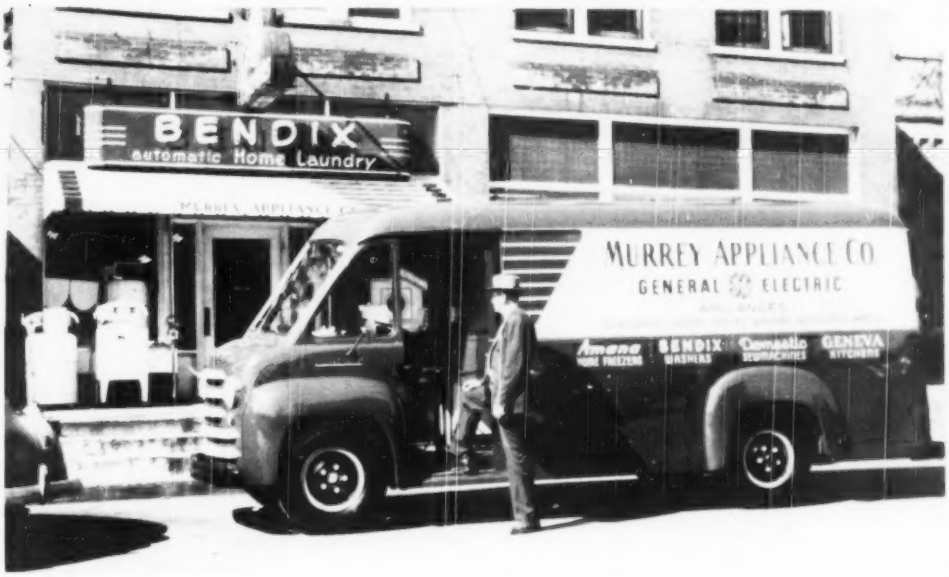
ELECTRICAL SOUTH

April, 1950

This is one section of the current issue of Electrical South.

Appliance Section

Household and Commercial Appliances • Radio • Television



FOLLOW THE RURAL LINES—Rural sales of appliances are still at a high level. This progressive dealer is getting more than his share of the business by taking the appliances to the prospects in this attractive truck. A generator provides power for actual demonstration. (See pg. 76.)

ALSO IN THIS ISSUE:

After-Sale Followup 79
Inventory Control 83
Laundry Servicing 85

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Dominion's BIG NEW VALUE for a BIG MARKET

TRADE MARK

NATIONAL ELECTRIC HOUSEWARES WEEK
APRIL 14 - 22
Get set with DOMINION APPLIANCES

COMBINATION WAFFLER and GRILL

To serve enough good food -- fast enough -- is a problem for most homemakers. This jumbo grill and waffler -- lowest priced large, square waffler on the market -- goes far to provide the answer.

Handsomely styled, lustrous chrome finish, sensitive heat indicator, heavy cast aluminum waffle grids -- these and other features make it a BIG value. It's another Dominion Family Favorite!

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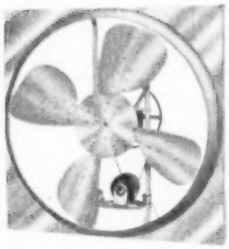
A COMPLETE LINE OF FANS OFFERS YOU YOUR BEST SALES OPPORTUNITY!

JOBBERS—You can handle this complete fan line knowing you are selling the best. A few territories are available. Write for details and full information.

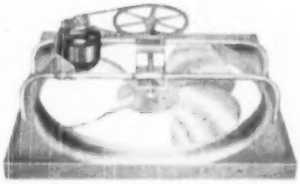


Here's a vertical mounted horizontal discharge attic fan built to stand the rigors of home and industrial use with many years of carefree operation. This is the only fan manufactured that carries a lifetime guarantee with the exception of the belt and motor. Built in sizes of 24" equipped with 1/3 hp motor up to and including 48" equipped with 3/4 hp motor.

This fan has heavy gauge steel housing, with frame of one inch seamless tubing, die formed. The blades are Torrington PATENTED die formed statically and dynamically balanced. The bearings are especially designed — sealed Ball Bearings with permanent lubrication. All Murray fans are rated in accordance with standard test code adopted by ASHVE and NAFM.

MURRAY HORIZONTAL ATTIC FAN

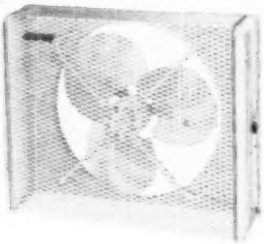
The Murray horizontal mounted, vertical discharge fan is built of the same materials as the vertical mounted horizontal discharge fan and comes in sizes 24", 30", 36", 42" and 48". This fan offers real sales appeal for homes with low bridge attics. They are built to assure compact installation and maximum air movement.



THE MURRAY 20 INCH WINDOW FAN

Its the most versatile of all. Especially useful in apartments or rented homes. Its light weight makes it easily portable and the attractive appearance blends with the interior of homes. The fine mesh guard is removable and constructed to protect tiny fingers.

EASY TO CLEAN AND OIL — two screws remove small mesh guard. PATENTED DIE FORMED—perfectly balanced, rubber mounted aluminum blades for maximum volume air and economical, quiet operation. 2 SPEED —direct connected motor. No belts or bearings. BEAUTIFUL—ivory finish and stainless steel.



THE MURRAY 24 INCH WINDOW FAN

Produces ample ventilation for the average small home or apartment. It operates quietly, is sturdily made of fine materials and is finished in a rich ivory color with bright stainless steel trim. Windows can be opened and closed with the fan installed, eliminating storage problems.

Deep pitched patented Torrington blade for maximum air delivery and whisper quiet operation. Two thumbscrews at top removes front guard for convenient and easy cleaning. Equipped with 1/3 hp General Electric or Westinghouse motors which provides ample power. Lifetime bearings — require no lubrication. An exclusive Murray feature.

THE MURRAY COMPANY of TEXAS Inc.

ATLANTA 1, GEORGIA — DALLAS 1, TEXAS

SALES AGENTS

H. C. BIGLIN Co. Inc., ATLANTA 3, GA.

177 HARRIS STREET, N.W.

Deepfreeze...

NEW!...LARGER CAPACITIES AT NEW LOW PRICES—*PLUS A GREAT NEW MODEL!...*

There's a Model to Fit Every Home, Every Purse, Every Market!

★ The Deepfreeze home freezer line fills every prospect's needs. Now you can offer six great new, improved Deepfreeze home freezers. Larger capacities *at lower prices*—a sales-winning combination that means PROFITS for every aggressive appliance dealer! This famous line is backed by a powerful distribution organization and a great manufacturer that pioneered the home freezer industry. Act today! Be sure to look over the line and the attractive franchise. And *now is the time* for greater profits with Deepfreeze—first and finest in the home freezer field!

DE LUXE MODEL C-7

Capacity 7.2 Cu. Ft. Holds more than 252 lbs. of assorted foods. $249.95 Retail Price

DE LUXE MODEL C-12

Capacity 12.3 Cu. Ft. Holds more than 430 lbs. of assorted foods. $399.95 Retail Price

DE LUXE MODEL C-20

Capacity 20 Cu. Ft. Holds more than 700 lbs. of assorted foods. $549.95 Retail Price

MODEL B-7

Capacity 7.2 Cu. Ft. Holds more than 252 lbs. of assorted foods. $229.95 Retail Price

MODEL B-12

Capacity 12.3 Cu. Ft. Holds more than 430 lbs. of assorted foods. $369.95 Retail Price

Another NEW Model in this Famous Line!

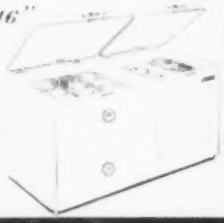
The "Sweet 16"

★ ★ ★

DE LUXE MODEL C-16

Capacity 16.1 Cu. Ft. Holds more than 563 lbs. of assorted foods.

$489.95 Retail Price



COMPARE FEATURE FOR FEATURE WITH ANY OTHER LINE! NO OTHER HOME FREEZER HAS SO MANY—ONLY DEEPFREEZE HAS THEM ALL!

SEPARATE FREEZING COMPARTMENT • POSITIVE-ACTION LATCHES
COUNTER-BALANCE LIDS • STORAGE BASKETS • ICE CUBE TRAYS • SERVING TRAY
INTERIOR LIGHTS AND LID LOCK • TEMPERATURE INDICATOR
5-YEAR FREEZING UNIT WARRANTY

Go Buy the Name...

Deepfreeze

HOME FREEZERS

DOES IT AGAIN!!!

NOW! 3 GREAT NEW APPLIANCES!

Deepfreeze

TRADE MARK REG. U.S. PAT. OFF.

REFRIGERATORS • ELECTRIC RANGES • ELECTRIC WATER HEATERS

★ NOW Deepfreeze gives you a *complete* line of appliances for preparing and preserving food—the new Deepfreeze refrigerators, electric ranges and electric water heaters! Satisfied owners of the Deepfreeze home freezers are a ready market for these new profit-makers. Prospects everywhere know the Deepfreeze name—they offer splendid sales opportunities. Here's quick "plus" appliance business—more reasons why your Deepfreeze franchise means PROFITS for you!

Don't Delay! See Your Distributor TODAY!

Your Deepfreeze Distributor will gladly explain the details of the Deepfreeze franchise and the complete Deepfreeze line! Ask him about the national advertising program and the many practical selling aids available to Deepfreeze dealers. You can sell these four great products by the carload for a handsome profit! Don't delay—see your Distributor—or write direct for details about America's Number 1 home appliance franchise. Deepfreeze Appliance Division of Motor Products Corporation, North Chicago, Ill.

ALL NEW Deepfreeze REFRIGERATORS

The Only Refrigerators With the New Deepfreeze Freezer Compartment and the exclusive Handi-bins in the Dual Vegetable Crispers (separate lift-top compartment for "small" fruits and vegetables). ADD THESE FEATURES. Deepfreeze Freezer Compartment • Butter Box with spread control • Swing Shelf • Dry Storage Bin • 5-Year Warranty.

There are five great models in this Deepfreeze line!

Models from $199.95 Retail Price

ALL NEW Deepfreeze ELECTRIC RANGES

CHECK THESE FEATURES: Multi-heat switches • Individual surface unit pilot light • Monotube super contact heating units • Automatic timer control and electric clock • Porcelain enameled broiler pan and polished aluminum alloy smokeless tray • Interval timer • Automatic preheat oven temperature control • Fluorescent range lamp • Appliance outlet • Economy well cooker with inset pan • Trivet and french fry basket.

Models from $159.95 Retail Price

ALL NEW Deepfreeze ELECTRIC WATER HEATERS

7 Models in an All-New Line of Deepfreeze Electric Water Heaters. You can promote them, display them, and sell many, make more money. A model for every home, every need!

MODEL WB-312. Twin Unit Round Capacity 31 gals. $114.95	MODEL WB-812. Twin Unit Round Capacity 81 gals. $189.95
MODEL WB-422. Twin Unit Round Capacity 42 gals. $129.95	MODEL WC-302. Twin Unit Table Top Cap. 30 gals. $129.95
MODEL WB-502. Twin Unit Round Capacity 50 gals. $139.95	MODEL WC-402. Twin Unit Table Top Cap. 40 gals. $139.95
MODEL WB-662. Twin Unit Round Capacity 66 gals. $169.95	

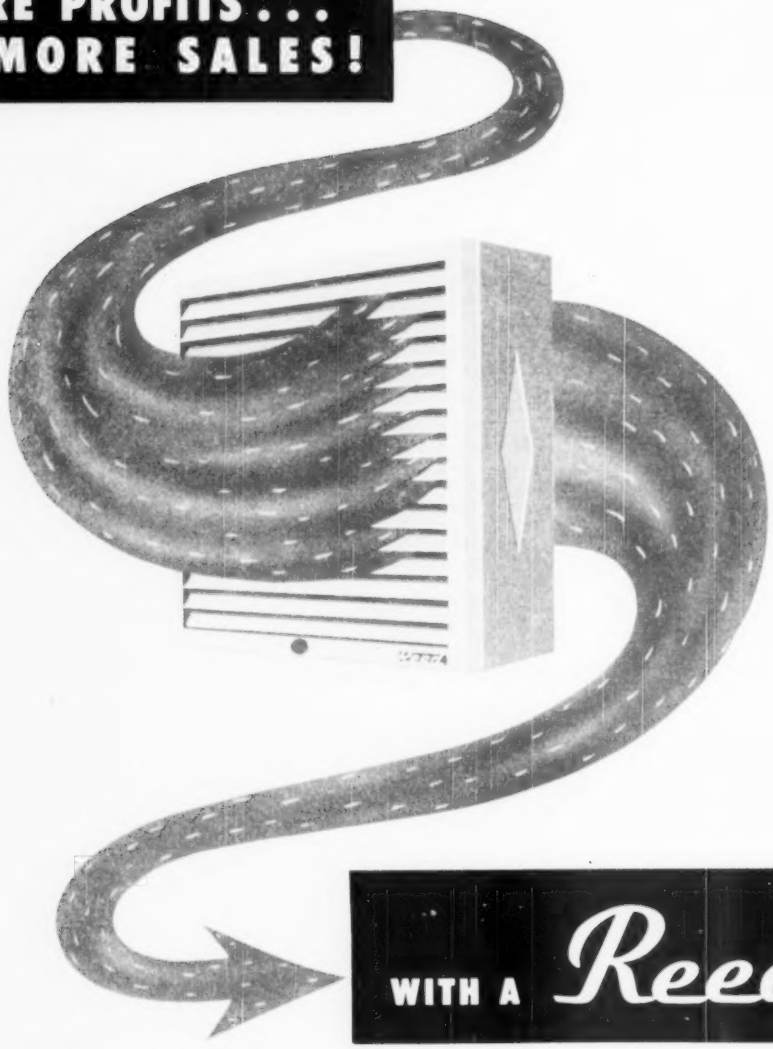
All Prices Retail

Go Buy the Name...

Deepfreeze

REFRIGERATORS • ELECTRIC RANGES • ELECTRIC WATER HEATERS

MORE PROFITS . . . MORE SALES!



WITH A *Reed*

For the fan that will give your customers the trouble-free service that every dealer hopes for, a Reed Unit-Fan is the best 1950 buy! Each model — window, attic, portable and industrial fan — combines those features most often looked for in fans . . . Quietness, Powerful Air Delivery, Reversible Operation and a long life of Trouble-Free Service . . . and, don't overlook the Reed Vertical Air Discharge Unit which requires only 13⅝ inches attic head clearance. Then too, PEMA Certified Ratings of Air Delivery are a guarantee to the dealer as well as to the customer. The dealer is also backed by the company's extensive consumer advertising campaign. Dealerships are now open . . . write for catalog and prices today!

R-U-F

REED UNIT-FANS, INC.

Manufacturers of Ventilating Equipment

1001 St. Charles Ave., New Orleans 8, La., U.S.A.

Certified Ratings PEMA

PUT 'EM ALL TOGETHER...

...it's easy to see why Fedders Dealers will again double their sales this Summer!

Climb aboard the Fedders bandwagon for a nifty-fifty! Your summer profits will zoom if you sell this fast-moving line of smart room air conditioners. Fedders has packed 54 years of engineering know-how into this new complete line of attractively styled models.

History making cooling capacity! For the first time in the history of room air conditioner design, Fedders offers a *full* ⅙ ton (6020 btu/hr.) and a *full* ¾ ton (9010 btu/hr.) window models. Ratings are certified at ASRE conditions.

Compare this line with any other room air conditioners regardless of price. Look at these sales-clinching features: exclusive rotatable Comfort Circle Grille, permanently oiled fan motors, exclusive V-Type twin evaporators; hermetically sealed, all-weld refrigeration system.

Streamlined model in both furniture-styled and smooth ivory cabinets fit into the window, plug in like a radio... no ducts, no water connections, no pipes. Yes, you'll agree that Fedders gives your customers more air conditioner per dollar.

fedders

A GREAT NAME SINCE 1896

MAIL COUPON NOW FOR FACTS!

FEDDERS-QUIGAN CORPORATION,
Unit Air Conditioner Division
Dept. E-1, Buffalo 7, New York

Gentlemen:
Please send me complete information on the 1950 line of Fedders Room Air Conditioners for we'd like to get aboard your profit band wagon selling this new comfort appliance.

Name _____
Company _____
Address _____
City _____ State _____

REVOLUTIONARY NEW DESIGNS!

Handybreeze . . . AMERICA'S GREATEST FAN LINE!

A NEW IDEA . . . the 12-Inch Clearvue Window Ventilator!

Sure-fire Seller IN YOUR STORE!

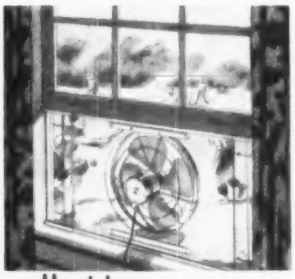
Model 3332
$39.95
Fair Trade Price

Here's a transparent combination exhaust and intake fan in one unit. Can be rotated in frame to be used for taking in fresh, cool outside air or reversed for blowing out hot, stale air. Easily installed with sliding panels at either end of ventilator adjustable with convenient thumb screws.

Heavy, durable plexiglas panel trimmed with shining stainless steel provides long lived, beautiful appearance from both inside and outside of window.

Air delivery—1000 CFM; 50-60 cycles; 60 watts; AC only; UL approved.

Clearvue—The Window Fan That Doesn't Block Vision . . . Lets the sunlight in! Lets you see out!



Handybreeze 10-INCH CLEARVUE WINDOW VENTILATOR—MODEL 3330

Same features as Model 3332, except 10" blades. Air delivery—775 CFM; 50-60 cycles; 45 watts; AC only; UL approved.

$29.95 Fair Trade Price

Handybreeze 10-INCH DUO-VENT WINDOW FAN—MODEL 3340

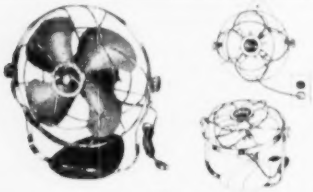
A 10" reversible window fan with all mechanical features of models 3332 and 3330. Heavy gauge metal frame equipped with sliding end panels for easy installation. Air delivery—775 CFM.

$19.95 Fair Trade Price

Handybreeze 12-INCH DUO-VENT WINDOW FAN—MODEL 3342

12" reversible window fan in heavy gauge metal frame. Air delivery—1000 CFM; 50-60 cycles; 60 watts; AC only; UL approved.

$29.95 Fair Trade Price



Model 3320
$10.95
Fair Trade Price

The Sensational New Handybreeze All-Purpose Fan!

"Pin-up" wall fan, floor circulator and table fan all in one! Easily adjusted to desired position by convenient knob at each side of cradle mounting. Wide area aluminum fan blades for extra power, ribbed for strength and beauty. 10" overall diameter. Finish of frost gray with durable, chrome air-flow guard, plastic base. Air delivery—775 CFM; 50-60 cycles; 45 watts; AC only; UL approved.

Model 3308 All-Purpose—Small

Same as above except 8" blades. Air delivery—440 CFM.

$7.95 Fair Trade Price

Convenient Wall Mounting Makes Handybreeze All-Purpose Fans Ideal For Homes With Children.

Handybreeze De Luxe Oscillating Fans

$21.95 Fair Trade Price

Model 3312. De Luxe 12-Inch Oscillating Fan

New fan blade gives most efficient air delivery. Oscillation adjustable from zero to 90°. Two speed switch has high, low and off positions. Frost gray finish with chrome air-flow guard. 6 ft. gray plastic cord with matching plug. Air delivery—1000 CFM; 50-60 cycles; 60 watts; AC only; UL approved.

$15.95 Fair Trade Price

Model 3310. De Luxe 10-Inch Oscillating Fan

Similar in appearance to Model 3312 except 10" blades, "on-off" switch, one speed. Air delivery—775 CFM; 50-60 cycles; 45 watts; AC only; UL approved.

De Luxe Handybreeze Pedestal Models Available. 10" $24.95 – 12" $29.95

Handybreeze Special Fans—Low Priced

STANDARD 10-INCH OSCILLATING FAN—MODEL 3305

$12.95 Fair Trade Price

Adjustable oscillation. Convenient "on-off" switch. Finished in frost gray. Polished aluminum blades.

$17.95 Fair Trade Price

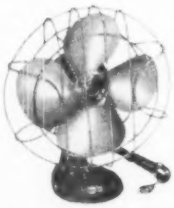
SPECIAL 12-INCH OSCILLATING FAN, MODEL 3104

Adjustable for oscillation from zero to 90°. Two speed switch. Finished in buff brown wrinkle enamel with blades of matching smooth color.

$5.95 Fair Trade Price

STANDARD 8-INCH MODEL 3909-N

On-off switch. Frost gray finish. Non-oscillating.

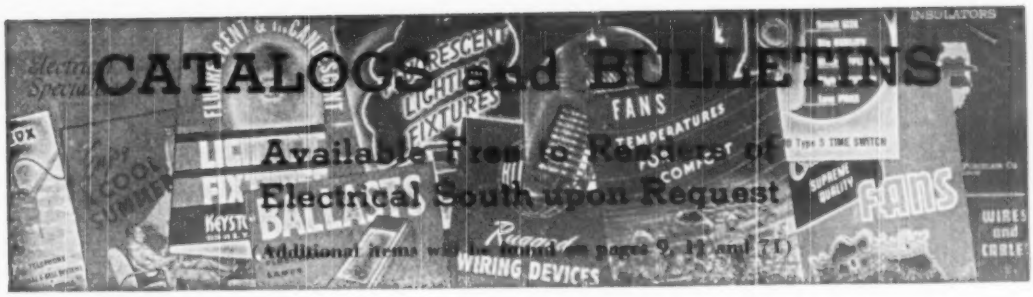


See your Handyhot distributor *Today*, or write direct for details about the new and revolutionary Handybreeze fan line. Chicago Electric Manufacturing Company, Chicago 38, Illinois.

Handybreeze *Electric Fans*

Chicago Electric Manufacturing Company, Chicago 38, Illinois

Makers of Handyhot Quality Electric Housewares



CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 9, 11 and 71)

2002—Propeller Fans. Application of propeller fans for solving ventilating problems in industrial, commercial, and institutional buildings is described in a 12-page booklet, Bulletin 3146, "1001 Ventilating Problems Solved," available from The Herman Nelson Corp., Moline, Ill.

2004—Air Conditioning Equipment. New Bulletin No. 3158-B, "Central Air Conditioning Equipment," contains comprehensive information on this type of equipment along with charts, specifications, and maintenance instructions. The bulletin has been released by Buffalo Forge Co., P. O. Box 985, Buffalo 5, N. Y.

2006—Renewal Parts. A 16-page booklet, "Renewal Parts for Fans & Appliances," illustrates and lists parts available for appliances of several manufacturers for whom Reading Electric Co., Inc., 102 Park Row, New York 8, N. Y., are authorized distributors of appliance parts.

2008—Automatic Toasters. Latest illustrated catalog sheets on Toastswell electric appliances, including two- and four-slice automatic toasters (both domestic and commercial types) and new Toastswell bun warmer featuring moisture control and removable enclosed heating element are available from The Toastswell Co., 620 Tower Grove Ave., St. Louis 10, Mo.

2010—Water Heaters. An illustrated folder describing Bell Water Heaters and the ten-year guarantee and warranty is available from Adacat Mfg. Co., Napier Field, Dothan, Ala.

2012—Room and Unit Heaters. Electromode Corp., 45 Crouch St., Rochester 3, N. Y., has announced two new catalogs, each of which contains descriptions, complete specifications, illustrations of the units, and shows typical installations, as well as other helpful information concerning heating by electricity. Catalog EC-62 is the industrial catalog, and No. EC-63 is the domestic catalog.

2014—Hot Water Heaters. Informative and well-illustrated data are available from M. M. Hedges Manufacturing Co., Inc., Chattanooga, Tenn., on their line of Mertland Automatic water heaters.

2016—Home Freezers. Full information on the Orley Sixteen, with a 16 cubic ft. capacity, and the Orley Super-Seven, with a 7½ ft. capacity, is available from Orley Freezers Inc., 475 Schaefer Road at Oakwood, Detroit 25, Mich.

2018—Electric Fans. A 28-page, profusely illustrated booklet describes in complete detail, this company's line of fans. Booklet available from Emerson Electric Manufacturing Co., St. Louis 21, Mo.

2020—Seco Fans. New bulletins by Seco-Lite Manufacturing Co., 4916 Easton, St. Louis 13, Mo., are now available, illustrating Seco Belt-Driven cooling fans and window fans. Bulletins contain data on installations in homes, apartments, commercial, and industrial applications.

2022—Window and Attic Fans. A four-page catalog piece completely illustrated and containing descriptive information on the new low cost "all in one package" window and attic fans has just been released by the Viking Air Conditioning Corp., 5601 Walworth Ave., Cleveland 2, Ohio. Illustrations of automatic ceiling shutter and automatic electric timer are included.

2024—Electric Water Heaters. New specification sheets are now available for a full line of cylinder and table top models, featuring the Water Hotter, from the White Products Corp., Middleville, Mich.

2026—Heaters and Circulators. The complete line of Minar Products, Inc., Brooklyn 5, N. Y., is included in a folder which gives specifications, features, and prices of all Minar heaters and air circulators.

2028—Fans. Catalogs Nos. 863 and 864, just issued by Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial, and industrial uses. These catalogs include information on 17 types of ventilating and comfort cooling equipment varying in size from 12 inches to 60 inches.

2030—Electric Fans & Drills. Signal's complete line is shown in a new catalog just off the press, featuring a wide variety of desk, pedestal, exhaust, and vent fans. Literature on drills, telegraphic equipment, and motors is also available from the Signal Electric Mfg. Co., Menominee, Mich.

ELECTRICAL SOUTH
806 Peachtree St., NE
Atlanta 5, Ga.

April, 1950

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name ..... **Title** .....

Company .....

Address .....

City & State .....

Circle numbers below. Bulletins and catalogs will be mailed promptly.

2002	2004	2006	2008	2010
2012	2014	2016	2018	2020
2022	2024	2026	2028	2030
2032	2034	2036	2038	2040
2042	2044	2046	2048	2050
2052	2054	2056	2058	2060
2062	2064	2066	2068	2070
2072	2074	2076	2078	2080
2082	2084	2086		

Any way you look at it . . .

Vornado

WORLD'S FINEST AIR CIRCULATORS

is your best buy!

ONLY *Vornado* HAS TWIN CONES

Just two extra parts make all the difference in the world

- Accepted public demand.
- Greater dollar volume.
- Liberal profit margins.
- Popular retail prices.
- No service worries.
- No installation problems.
- Vornados sold — stay sold.
- Satisfied customers sell 'em for you

Your customer gets more comfort for his dollar. A model for every pocketbook.

PRODUCT OF THE O. A. SUTTON CORPORATION, WICHITA, KANSAS

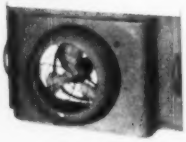
Vornado MUST BE GOOD TO BE IMITATED!

SOUTHERN DISTRIBUTORS • Chas. S. Martin Dist. Co., Atlanta • Air Engineers Inc., Birmingham • Radio & Appliance Corp., Nashville • East Tenn. Wholesalers, Knoxville • Cain & Bultman Inc., Jacksonville, Miami, Tampa • Hugh-Wills Co., Charlotte, N. C. • McGregors Inc., Memphis • Foster Dist. Co., Louisville • Tri-States Dist. Co., Inc., Shreveport • Frank Lyon Co., Little Rock • J. A. Walsh & Co., Inc., Houston • Lone Star Wholesalers Inc., Dallas • Southern Equipment Co., San Antonio • Dulaney's, Okla. City • Huntington Wholesale Furniture Co., Huntington, W. Va. • A. B. Tiller Corp., Richmond, Va. • Goodman Electric Supply Co., Norfolk, Va. • Millington Supply Co., Chattanooga • Southern Appliances Inc., Charlotte, N. C.

Have you stocked all of Vornado's sensational Turnabout window fans?

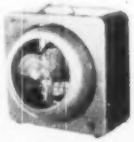
Model 16W1

Model 30W1



Model 40W1

Model 60W1



Model 30 CF-1 CASEMENT WINDOW FAN

. . . simple to install — just hang it up!

2032—Electric and Gas Water Heaters. Four page illustrated folders explain outstanding features of Fowler water heaters including porcelain lining, "black heat" elements, and 3-way insulation. These folders list specifications, dimensions, and construction details, and are available from Fowler Manufacturing Company, 2545 S. E. Gladstone St., Portland 2, Ore.

2034—Electric Flat Irons. Full information on American Beauty Electric Flat Irons in a weight, a shape, a size for household, as well as every industrial and manufacturing use, is available in literature from the American Electrical Heater Company, Detroit 2, Mich.

2036—Fans. Colorful literature describing the new spring suspended silent window ventilating fans and table air circulators to be featured in 1950 are now available from the Fan Division, International Oil Burner Co., 3802 Park Ave., St. Louis, Mo.

2038—Murray Ventilating Fans. A set of specification sheets is available describing the Murray line of fans, including 20 and 24 inch window fans and vertical and horizontal ventilating fans. H. C. Biglin Co., Inc., 177 Harris St., NW., Atlanta 3, Ga., is exclusive sales agent for the line which is manufactured by Murray Co. of Texas, Inc.

2040—Electric Blowers and Exhausters. Bulletin 3014-D describes Types "E" and "RE." Buffalo blowers and exhausters manufactured by Buffalo Forge Co., Buffalo 5, N. Y. Characteristics of the blowers, graphs, charts including capacities and static pressures, and exact dimensions are all contained in the 8 page folder.

2042—Window Fans. Meier Electric & Machine Co., Inc., 3525 E. Washington St., Indianapolis 7, Ind., have available the following catalog sheets: Form 2207, which describes and illustrates each of their five Nu-air Windofans, Form 2208, describing and illustrating three three-blade and one four-blade Nu-air Quiet Propellers, and Form 2209, which illustrates the Nu-air Windofan No. RW 240 or RW 200.

2044—Fan Units. G-M Laboratories, Inc., 4300 N. Knox Ave., Chicago 41, Ill., have released catalog pages of description on each of the four fan and fan and heater units currently in their line. Informative and well illustrated, these pages list the sizes, characteristics, prices, etc., of each model.

2046—Household Electrical Appliances. Dominion Electric Corp., Mansfield, Ohio, offers catalog information and detailed specifications on a complete line of table appliances, called "Family Favorites."

2048—Room and Water Heaters. Wesix Electric Heater Co., 300 First St., San Francisco 5, Calif., offers an 8 page illustrated catalog describing Wesix products for home, office and industry.

2050—Cooling and Ventilating Equipment. Complete data are available on Chill-Air window fans and coolers for home, theatre and store, recirculating pumps and blowers. White National Engineering and Manufacturing Co., 523 Wyandotte, Kansas City, Mo.

2052—Portable Circulating Heater. A catalog sheet describing 1320 or 1600 watt portable circulating heaters, featuring cool case and room-wide heat penetration, is available from the Titan Mfg. Co., Inc., 290 Terrace, Buffalo 2, N. Y.

2054—Fans. The C. & H. Air Conditioning Fan Co., Inc., 1591-1621 DeKalb Ave., N. E., Atlanta 6, Ga., have released an interesting 28-page booklet, "Cottongim's Supreme Quality Fans." Besides showing pictures of various models, views of operations inside the plant, and specifications, there is a section devoted to methods of installation of attic fans.

2056—Radiant Heaters. Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa., has prepared a portfolio of Chromalox Radiant Heater Application Reports. In addition, the portfolio includes catalog sheets and technical data on the Chromalox "RAD" heaters.

2058—Exhaust Fans. A new Emerson-Electric Exhaust Fan catalog, illustrating and describing in detail this line of fans for all types of buildings, is offered by the Emerson Electric Mfg. Co., St. Louis 21, Mo.

2060—Propellor Fans. The Herman Nelson Corp., Moline, Ill., announces its new Bulletin 3111 containing 12 pages of technical information and concise details about direct and belt drive propeller fans as well as practical, proven unit fans.

2062—Hot Water Heater. Informative and well illustrated data are available from Bell Electric Products Co., 700 Murphy Ave., SW., Atlanta, Ga., on their Tabletop Electric Water Heaters. These units are available in single and double elements with a thirty gallon capacity.

2064—Electric Fans. An attractive, 8 page, 62nd Season Catalog of Zephair fans has been made available by the Hunter Fan & Ventilating Co., P. O. Box 2858, Memphis 2, Tenn. A comprehensive description of this company's products is given, with complete specifications and dimensions.

2066—Shutters & Dampers. A 12 page catalog (No. 46) is available from the Elgin Shutter Mfg. Co., 2738 W. Warren Ave., Detroit 8, Mich., describing the 17 different types of shutter and dampers manufactured by them, and as used in connection with ventilating and air-conditioning installations.

2068—Air Circulator. An illustrated catalog page (Form 2303), 8½ x 11 inches in two colors, gives complete specifications and performance characteristics of the G-M 900-24 inch Oscillating 3-Speed Air Circulator. A special 8½ x 11 page of diagrams shows operation of the safety release on the oscillating mechanism. A chart compares performance of this model with other well-known makes. Also glossy 8 x 10 photographs of separate wall, floor, and counter models are available from G-M Laboratories, Inc., 4328 N. Knox Ave., Chicago 41, Ill.

2070—Zephair Fans. Hunter Fan and Ventilating Co., Inc., 400 So. Front St., Memphis, Tenn., offers a new 8 page catalog containing detailed information on the Hunter Zephair Fans, for home and industry.

2072—Reed Unit Fans. A new 16 page booklet on unit fans has been published by Reed Unit Fans, Inc., 1001 St. Charles Ave., New Orleans 8, La. This booklet describes the design of the Reed reversible unit fan and how by adding various attachments it serves all purposes and uses.

2074—Ventilating Fans. The complete line of C. & H. ventilating fans is pictured, with dimensions and details, in a new 24 page catalog. Described are exhaust fans, window fans, air circulators, portable and desk fans, and fan accessories such as grilles and shutters. C. & H. Air Conditioning Fan Co., Inc., 1603 DeKalb Ave., NE., Atlanta, Ga.

2076—Coffee Makers. The complete line of Cory coffee products, including the famous Cory rubberless coffee brewers, service set, the Cory Automatic, electric coffee grinder, 2-heat electric stove, and commercial units is described in a 20-page, beautifully illustrated booklet. Copies may be obtained from the Cory Corp., 221 N. La Salle St., Chicago, Ill.

2078—Sales Helps. A variety of sales helps, including Sound Slide Colored Training Films, How to Sell Booklets, Consumer Pieces, Specification Sheets, Demonstration Kits, Display Cards and Promotion Kits for selling and demonstrating General Mills Home Appliances—Pressure Quick Saucepan, Tri-Heat Iron and Steam Ironing Attachments are available to dealers from General Mills, Inc., Home Appliance Dept., 1620 Central Ave., Minneapolis 13, Minn.

2080—Water Heaters. Information is available about the "SUPCO" Electric Water Heater from the Automatic Electric Heater Co., Pottstown, Pa. Literature available describes several exclusive features in the "SUPCO" line of round and table top heaters.

2082—Fans. Catalogs Nos. 563 and 564, just issued by Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial and industrial uses. These catalogs include information on 17 types of ventilating and comfort cooling equipment varying in sizes from 12 inches to 60 inches, and in output from 1,000 C.F.M. to 32,000 C.F.M.

2084—Lakewood Fans. Ventilating fans, spray booth fans, window ventilators, shutters, and replacement parts for all units are described in a catalog available from Lakewood Engineering & Manufacturing Co., 1756 W. Lake St., Chicago 12, Ill.

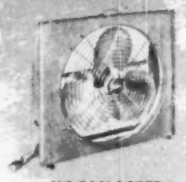
2086—Monarch Electric Ranges. Data is available from Malleable Iron Range Co., 4861 Lake St., Beaver Dam, Wis., on all types of this company's ranges.

Better Fans!
More Sales!!
Bigger Profits!!!

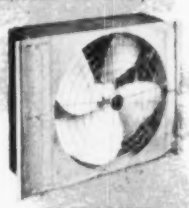
NEW UNITS . . . larger range of sizes . . . advanced designs . . . additional mechanical features . . . National advertising, make the 1950 line of NITECOOL* and KOOLMASTER* fans better to look at . . . easier to sell . . . *priced for larger dealer profits.*

Units are completely welded, equipped with standard parts, GE motors, (eligible under G.E. Exchange Plan) Torrington Varified blades, V-belt drives. Rated and tested in accordance with ASHVE and NAFM standard test code.

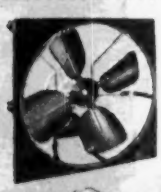
Air Equipment Company offers protective franchise for sales, and distribution representation in certain territories. Write for complete details.



KOOLMASTER
18" Portable Window Fan — 3 Speed (Adjustable — 24" to 34")
20" Portable Window Fan — 3 Speed (Adjustable — 28" to 36")



KOOLMASTER
24" Window Fan — Single Speed (Adjustable — 28¼" to 37")
24" Window Fan — 2 Speed (Adjustable — 28¼" to 37")



NITECOOL ATTIC AND COMMERCIAL BELT-DRIVEN FANS

These fans are built for service, with a minimum of operating and maintenance cost. Sizes 30" to 48". Capacity 5,000 to 20,000 C.F.M. Designed for attics, farm, commercial and industrial applications.

NITECOOL VERTICAL FANS

Designed for homes or commercial buildings of low pitched roof construction. Easy and economical to install. Sizes 30", 36", 42". A package unit . . . ready for installation.

*REGISTERED TRADEMARK

56 years of progressive and progressive improvement

AIR EQUIPMENT CO.

1713 W. CARROLL AVENUE, CHICAGO, ILLINOIS
Warehouse
630 S. MILLER STREET, CHICAGO, ILLINOIS

Such Beauty! Such Performance!

KISCO **CIRCULAIR**

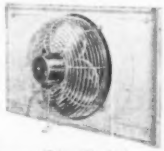
The "Successor to the Fan"

REG. NO. 385746

REGAL-AIRE . . . The Aristocrat of The Kisco Line . . . All-Steel Construction

The Newest CIRCULAIR built by KISCO . . . The Originator of Floor Model Air Circulators . . . The Creator of "The Successor To The Fan", KISCO CIRCULAIR. Today, as Always, Leads the Field.

KISCO WINDOW FANS



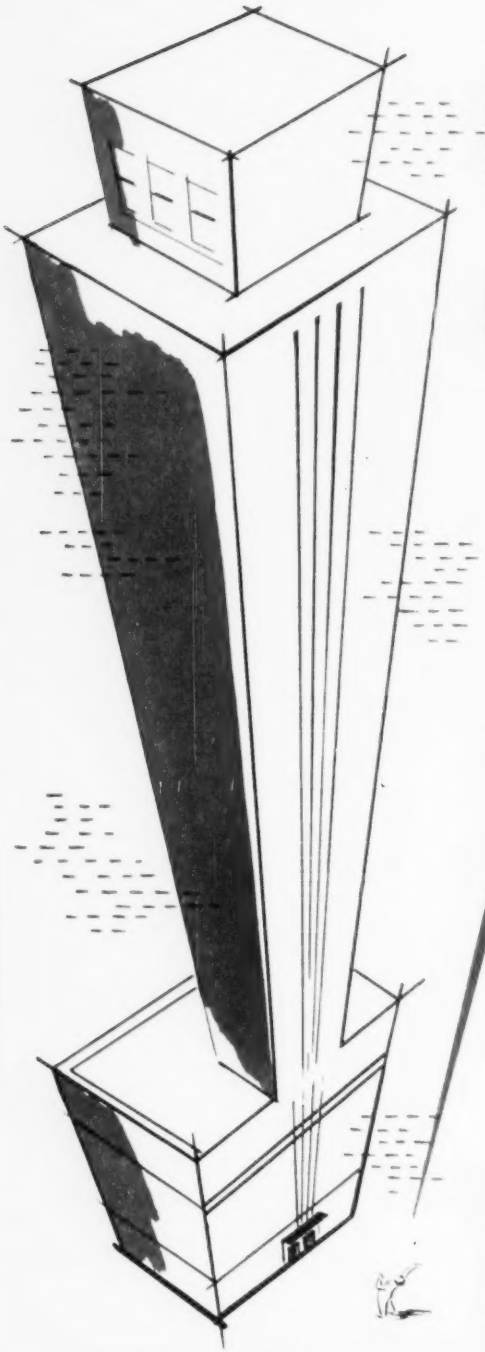
The Last Word in Quiet, Cool Comfort! Designed for Efficient Performance and Long Life! Guaranteed by KISCO! Six Models, 3 Sizes, adjustable to fit most windows!

And Now . . . A Really Efficient Reversible Model

KISCO COMPANY inc.

2400-40 DEKALB STREET, ST. LOUIS 4, MO.

WESTINGHOUSE ELECTRIC CORPORATION • Appliance Division • Mansfield, Ohio



GOSH

it wasn't even here this morning

Now, w-a-i-t a minute! That's going a little too far. Maybe we do perform industrial miracles in this America of ours, but we haven't gotten around to putting up skyscrapers in *one* working day—not yet anyhow. But we're doing things almost as miraculous as that.

Automobiles, radios, television sets, washing machines and so many other wonderful things are pouring off our production lines by the thousands—daily.

Never before in the history of the world have so many labor-saving, time-saving, miracle-working devices been made for the comfort and convenience of any people.

How do we do it? Easy!

We do it simply by a unique combination of qualities that make our nation the most productive of any country on earth. We do it with a system built on our solid faith and belief in the dignity of the individual.

We haven't reached a state of perfection yet. We probably never shall. But we've been getting better and better and better all the time. While we've been making all of these wonderful things, we've been working progressively shorter hours, earning more money, living better and decreasing the cost of production so that prices can go down.

Our American system is the best, the most thrilling, ever devised. With even better teamwork, the future is unlimited. If you want to help make that future, join with The Advertising Council in explaining the American economic system to your employees.

Order copies of the booklet "The Miracle of America" which explains clearly and simply how a still better living can be had for all if we all work together. See that each of your employees receives one of these copies.

Let's show the world what Americans can do when they really *try*.

WANT TO HELP?
MAIL THIS

The Advertising Council, Inc. Dept. B
25 West 45th St., New York 19, N. Y.

Please send me prices on _____ copies of "The Miracle of America", so that each of my employees may receive one.

Name_____

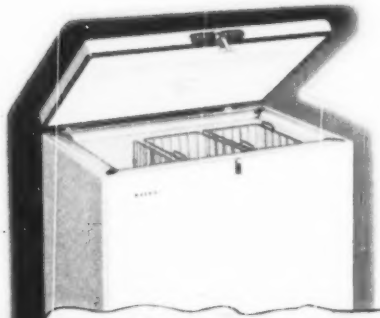
Company_____

Address_____

THE ADVERTISING COUNCIL, INC.
A non-profit organization representing all phases of advertising dedicated to the use of advertising in public service
25 West 45th St., New York 19, N. Y.

CHILL CHEST

FOOD FREEZERS



8 CU. FT.
CHILL CHEST
MODEL FF-81
320 Lbs.
Capacity

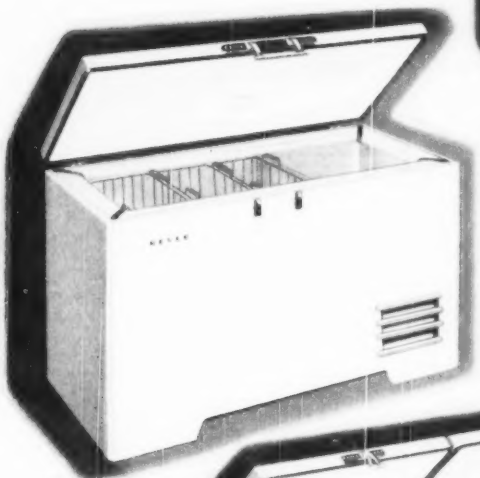
LARGER CAPACITY

IN LESS SPACE

LOWER PRICE

PER CUBIC FOOT

"The THRIFTY buy in '50!"



15 CU. FT.
CHILL CHEST
MODEL FF-150
600 Lbs.
Capacity

23 CU. FT.
CHILL CHEST
MODEL FF-230
920 Lbs.
Capacity

NEW EXCLUSIVE FEATURES . . .

Take a look at almost any line of food freezers — they look alike, but check their storage capacity, cabinet size and features with Revco Chill Chests. Yes, You'll be amazed! Chill Chests are bigger inside to give you more food freezing and storage capacity. The Chill Chest line of 8, 15 and 23 Cu. Ft. Models compare both in price and outside dimensions with average 6, 12 and 20 Cu. Ft. freezers of other makes.

Then look at features that keep a food freezer "ticking"! Compare how fast the freezer pulls down to zero . . . check cabinet construction features that assure safe low-temperature over longer periods for most economical performance.

Chill Chest's exclusive design and proven engineering methods give you many distinctive advantages like the chip and rust-proof Aluminum Fast-Freezing and Food Storage Compartment . . . Frost-Free Seal Zone that provides the perfect lid seal . . . Easy-Lift Food Baskets with plastic wrapped handles. Yes, dollar for dollar, feature for feature the Revco Chill Chest line offers "the THRIFTY buy in '50"!

No question now as to who leads the field on LARGER CAPACITIES IN LESS SPACE at LOWER PRICE PER CUBIC FOOT in Home and Farm Food Freezers. Wire, phone or write for complete data and name of Distributor near you. Distributor inquiries also invited.

Revco INC. • DEERFIELD, MICHIGAN

(Left) Home freezers are usually completely filled with a variety of frozen foods at Murrey Appliance Co., Lewisburg, Tenn., owned by Henning Murrey. In order to get most effective appeal, demonstration parties in the store spread the word about freezers. Demonstrations on almost every major appliance handled by the firm—from milking machines to sewing machines—have enabled these appliances to "talk for themselves." (Below) The philosophy on which this company stakes its future, says Henning Murrey, is that "there is nothing you can say about your appliances that will sound more convincing than what they say when you let them speak for themselves."

•

TALKING APPLIANCES

Demonstrations and store on wheels have rural appeal

by Ross L. Holman

"THERE IS NOTHING you can say about your appliances that will sound more convincing than what they say when you let them speak for themselves."

That is the philosophy on which the Murrey Appliance Company stakes its future. In his store at Lewisburg, Tenn., Henning Murrey keeps a model of every major appliance connected for immediate demonstration to any hard-boiled customer who craves to see it proclaiming its advantages.

He has a fine demonstration truck that speeds down the route of every recent REA line and stops at every

newly kilowatted home to let Mrs. Sally Housewife hear these machines speak their own language of home relief.

He will stage a public demonstration on each specific appliance in which an audience of 100 or more at a time can see it show its own points of superiority about which he has been boosting in radio, newspaper and mail appeals.

Flexible Store Arrangement

In his store he has his larger appliances neatly arranged down each side of the store in close formation but not so crowded that they cannot be quickly pulled into a clear spot for a more convenient demonstration. Down the center of the store from end to end is another double row of major appliances arrayed in the same easily reversible manner.

A demonstration model of every major appliance is hooked up with current—some already working, others ready to spring into action at the flick of a switch. Among the energized machines are a large shelf type home freezer, all refrigerators, an automatic washer, automatic dryer, dishwasher, wringer type washer, milking machine, sewing machine, and electric range.

Effective Freezer Appeal

Take the home freezer. It is usually completely filled with real frozen exhibits of a wide variety of foods that any interested prospect can inspect any time. But in order to get this zero box to make its most effective appeal, Murrey will throw a big party in which scores of eyes can see it strut its stuff. His radio spots and other advertising media will announce a coming store demonstration. In working up the spectating crowds he has found the home demonstration agent a valuable ally. She has an organized club in each farm community where she continually emphasizes to

(Top) The truck in which Murrey demonstrates to newly kilowatted homes contains an array of major appliances arranged similar to his store, but on a smaller scale. (Center) This rolling truck has just recently been added to the firm's operations, but behind it is several years of carrying appliances directly to the farm in a regular truck. (Bottom) In addition to major appliances, shelves contain radios, irons, percolators, toasters, and other small housewares. These appliances are hooked up to an installed generator which can put different ones in operation much the same as in the regular store exhibitions.

the club women the importance of home conveniences.

Murrey offers a money prize to the home demonstration club that has the largest attendance. This creates a spirit of rivalry which, when aided and abetted by the home demonstration agent, guarantees a good crowd. Each lady present is also given an individual present in the form of a small aluminum vessel or similar article.

Prospect List

Each attendant fills out a card in which she lists the number of appliances she already has, those she needs the most, and the next appliance she intends to buy. This gives Murrey a real live prospect list that he and his two salesmen, J. R. Fisk and Louis Westmoreland, immediately follow up.

At the demonstration is a specialist who has on hand a large variety of meats, fruits, and vegetables which she shows how to prepare for the freezer. For example, she will dress a turkey or cut up a side of beef or pork into freezable chunks. She will show how each piece is specially wrapped and otherwise processed before storing in the machine. She will take a tomato, prepare it for freezing, and show how it can be smacked with a blast of sub-zero temperature which holds all its food values in a state of suspended animation until ready to serve. The specialist is available for any question that any prospect may ask.

A similar demonstration is occasionally staged for the sewing machine. The sewing specialist is on hand to work the buttonholes, do the hemstitching and other skilled work, and allows any woman present to sit at the machine and see how easily she can learn to do it for herself.

Then there is the dishwasher which, with a twist of a faucet and switch, is ready to stage its own performance. A washing machine will do a week's wash for any interested customer and, if the customer doesn't bring along any dirty linen, Murrey keeps a supply of his own on hand in order not to miss any bets.

In the Murrey store, larger appliances are arranged down each side in close formation, but not too crowded. Any appliance can be quickly pulled into a clear spot for a more convenient demonstration. Down the center from end to end is another double row of major appliances arrayed in the same way.

Milking Demonstration

Murrey has sold many of these different machines through his willingness at any time, anywhere, to let them speak for themselves. But one of his most effective demonstrations is that of his milking machine which is rigged up in the store with everything except the cow. Marshall County is one of the biggest dairy counties in the state and these milkers have been moving so well he recently bought a carload of them to meet the demand.

Any dairyman coming into the store any time is allowed to put the milker to work and see it performing just as it would do in his barn. He can see every working part and have it explained to him. At the store Murrey has a chance to convince his prospect of its simplicity of operation before he invests a cent.

While these store exhibits are important in themselves, Murrey doesn't sit around and wait for buyers to drop into his place of business like sugar plums from heaven, but he carries the store to the customer. He has a handsome exhibition truck which, when loaded, is a store on wheels. In this truck is an array of major appliances as neatly arranged as in the regular store, but on a smaller scale. There are shelves upon which radios, mixers, percolators, toasters, and other small housewares are displayed. These appliances are hooked up to an installed generator which can start different ones to work as in the regular store exhibition.

Effective Salesmanship

This rolling store is a recent addition to the firm's operations, but it is a culmination of several years of effective salesmanship with appliances carried directly to the farm in a regular truck.

The store picks out a route for the exhibition truck on a new REA line where the harnessed lightning has just been put to work. Sometimes they take it out and demonstrate just before the new power line is completed. In this way Murrey sells and installs many appliances that the customer wants to have ready for instant use as soon as the kilowatts are turned loose on the community. If he can't make a pre-power sale, he begins the build-up for a later sale that he follows up until electricity becomes available.

After an REA line is completed they drive the truck up to each newly energized farm home in turn. The farm family sees the appliances at work and sales are made. Whether or not a sale is made the salesman records the same information that is gathered at the store demonstration, including the next appliance the customer intends to buy, and adds it to his prospect list. "We intend eventually to visit every electrified farm home in the county," said Mr. Fisk, "and keep these intentions to buy very much alive and up-to-date."

(*Continued on page 111*)

"After-Sale" Gifts

. . . Follow-up contacts with new customers add new prospects to list

Maintaining a close personal contact with appliance customers after they have been sold, and keeping them returning to the store for good will-building free gifts, is a novel slant on merchandising technique which has been profitable for Patrick & Silk, appliance dealers in Newport News, Va.

Enjoying a record sales year in 1949, at a time when other dealers were tightening their belt buckles and preparing for "slimmer pickings," Patrick & Silk credits its novel customer relations program with many of the additional sales ring up.

How the Plan Works

The customer relations plan is simplicity itself. The tools required, according to Robert Silk and Carl Patrick, firm heads, are simply around $10 per month worth of premiums which are given free to sold customers when they call in the store, a stock of penny postcards, a printing machine for the latter, and a tightly maintained record file on all customers sold.

"I believe that the appliance retailer who forgets all about the customer once the appliance has been installed and checked, is making a serious mistake," Mr. Silk said. "To the customer who has already purchased an appliance from the store is logically going to be a lot easier to sell the second time—so long as she is satisfied with the appliance, and the organization. Therefore, after the appliance is sold and paid for, we try to make it worthwhile for our customers to come into the store at least once a month."

Direct Mail Program

Extending this invitation is a penny postcard direct-mail program, which Mr. Silk and Mr. Patrick have perfected after 15 years of experimentation. Under the plan, the name, address, telephone number, and sales information on each sold customer is entered on small file cards, alphabetically indexed, and maintained permanently in the sales office files of the company.

One month after the new appliance has been installed, and checked by the salesman who sold it, the first penny postcard goes out to the owner. If a washing machine is concerned, the first postcard reads, "Dear Madam: we want to thank you again for the purchase of the washing machine from us. It is our desire that you enjoy the maximum benefit and service of your purchase, and we request that you notify us immediately if we have not thoroughly acquainted you with the complete operation and advantages of your machine. Since an oil can does not come with the washer, we have purchased one for you, and will place in your hands an 8-ounce can of oil free of charge, together with instructions for its use, if you will bring us this card any time during the week of _____.

We are looking for you."

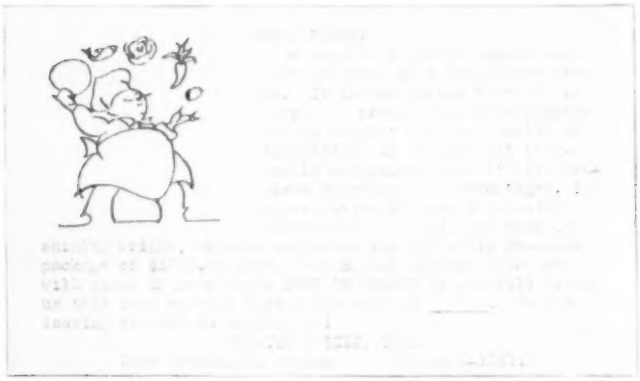
The penny postcard shows an unusually high degree of response, according to Mr. Silk, with from 35 per cent to 45 per cent of the washing machine customers sold the previous month dropping in for the long-spout can of oil which the store gives them. The oil can, a handy, drip-free type, costs Patrick & Silk only 13 cents each—but buys hundreds of dollars worth of future good will.

Thirty days following, and during the second month, the second card in the series goes out. In this case, the card is a printed variety, and offers the customer a free full-size package of a popular laundry soap, simply by presenting the card. Mr. Patrick and Mr. Silk went to a local distributor to set up this plan, the soap distributor furnishing all of the soap in return for its introduction to many washing machine owners. The card again promises the customer a free gift with a call at the store. "Here again, we have at least a one-third response," Mr. Silk said. "Inevitably, the offer of something for nothing, and the fact that the customer is pleased with her washing machine, is sufficient to bring her around."

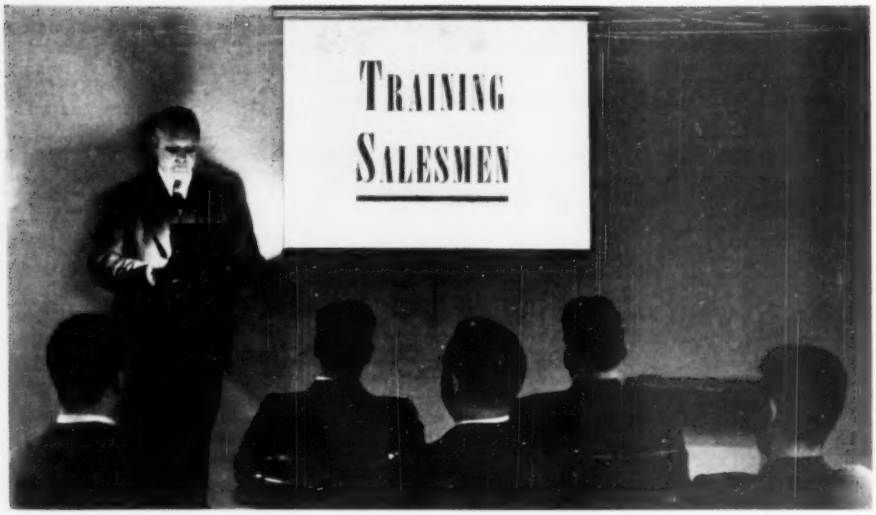
Actual Cost Low

The Virginia appliance retailer follows this plan through religiously with every major appliance sold, no matter what time of year, and finds that actual premium cost is approximately $10 a month, while postcard mailings, secretarial expense, etc., come approximately to another $5. Where refrigerators, home freezers, ranges, etc., are concerned, the first card sent to the customer invites her to drop around and receive free a 20-ounce

(Continued on page 110)



This message on the back of a penny postcard invites the customer who has recently purchased an appliance to re-enter the store for a free, after-sale, good will gift with the compliments of Patrick & Silk, Inc., Newport News, Va. The store has found that while the average cost for sending out these cards amounts to about $15.00 monthly, they have at least a one-third response to these mailings, which eventually buys hundreds of dollars worth of future good will.



Selling must be studied, learned, practiced, and improved continually

by J. A. Leach
Vice-President,
Jenkins-Leach, Inc.
Memphis, Tennessee

SALES TRAINING as we see it is not theory. It is not psychology, nor is it a "course" developed and presented by long-haired, book-taught professors, but is the accumulation of actual experience and results of successful dealers, supervisors, and salesmen on the job.

Value of Training

Sales training teaches the salesman what he should do, how he should do it, and why he should do it in order to make profitable sales, maximum sales, build customer good will, and in general, build a profitable business for the dealer.

Now we want to consider why sales training is necessary. In the first place, selling is a profession for which men must be trained, just as doctors, lawyers, actors, and athletes must be trained.

Selling is a profession that must be studied, learned, practiced, and improved continually. It cannot be learned through experience alone, but must be constantly taught and supervised. Otherwise, the salesmen simply gain more experience in using bad methods.

Some of our dealers may think that training is not necessary because they never had any, and they are good salesmen. The "born salesman" is the exception. Most salesmen must be "made" by training. The man with selling ability becomes a successful salesman more quickly if he is trained, and at this time the dealer needs to develop salesmen as quickly as possible. Training is the answer!

Again, training enables the dealer to impart to his salesmen, within a short period, product knowledge and sales technique that would otherwise have to be gained by long and costly experience at the dealer's expense.

I would also like to point out that trained salesmen are essential to the dealer in order to . . .

1. Prevent the loss of possible sales
2. Make the most profitable sales
3. Get his share of the business
4. Build a stable organization
5. Stay in business.

Without trained salesmen, a dealer will miss a great many possible sales, simply because his salesmen do not know how to find prospects, how to recognize them, how to develop them, or how to sell them. The untrained salesmen's percentage of closes will be low. They will make unprofitable "deals," or sell the lowest-priced models, just to have an order or two to turn in. With that sort of operation, no dealer can long stay in business.

It is also true that untrained salesmen may do the dealer irreparable damage in loss of good will through poor selling and handling of customers, and through ignorance of products and policies.

Handling Customers Important

The poor selling methods of untrained salesmen, and their poor handling of customers in general, often irritate customers and create ill will for the dealer's organization. Then ignorance of the product and the dealer's policies and practices often puts the dealer in a bad spot because the salesman promises something that cannot be fulfilled, or fails to give the customer the right information about the product, policies, terms, etc.

Good sales training is needed now because prospects have exaggerated ideas about postwar products. Because of wild stories about "the postwar world," people will be looking for new developments, asking many

(Continued on page 109)

This is the second article by Mr. Leach on building a sales force. The first article, "Hiring Salesmen," appeared in the March issue of *Electrical South*.

FLORIDA EXPOSITION

. . What's new electrically gets dramatic answer at annual affair

The fact that it's Florida has something to do with it.

The fact that it's held during, and part of, the Florida State Fair, world's largest winter exposition drawing more than a cool million attendance, has something to do with it.

The fact that the famous Gasparilla Carnival and Pirate Invasion is staged at the same time, has something to do with it.

But the fact remains that as you walk through the 38,000 square feet of exhibits you are struck with the situation that men and women from every state are shaking hands with each other, digging up mutual acquaintances, enjoying the famous Florida sunshine, taking part in one of the state's biggest holidays and getting a preview of everything that's new electrically at the same time.

Nationwide Audience

The Florida Electrical Exposition shows not only to the people in the rich Tampa territory served by its sponsor, the Tampa Electric Company, but it shows to people from Miami, Key West, Palm Beach, St. Petersburg, Orlando, Jacksonville, and Pensacola, and to people from all over Florida, half of whom at least are here from New York, Ohio, Illinois, and every one of the other 45 states. Thus, national manufacturers and Florida distributors look upon the Florida Electrical Exposition, not just as another home show, but a place to introduce their new lines statewide in Florida and catch thousands of people from other states, too.

Here is a list of some of the national manufacturers who had individual exhibits in the specially decorated building:

Exhibitors Numerous

Frigidaire division of General Motors; General Electric Company; Westinghouse Appliance division and Westinghouse Lamp division; Kelvinator division of Nash-Kelvinator; Leonard Division of Nash-Kelvinator; the Nineteen Hundred Corp.; Radio Corporation of America and the Lewyt Corp.; American Coolaire Corp.; Philco; Knapp Monarch Company; Speed Queen Corp.; Gibson Refrigerator Corp.; Altorfer Bros. Inc.; McGraw Electric Company; Marvaire Heat Pump; Edison General Electric Appliances, Inc.; Crosley Corporation; Westix Heater Company; Thor Corporation; Admiral Corporation; Youngstown Kitchens and Hunter Fan Company; Insurite, Inc.; Lindemann and Hoverson Co., and Emerson Radio; Hoover Vacuum Cleaner Company; Webster Chicago Company; Blackstone Corp.; International Harvester Co.; York Refrigeration Co.; Continental Radiant Glass Heating Corp.; Swivelier Company; General Electric Lamp Division; Worthington Pump Co.; the Carrier Corp., and Economaster Sales Company.

Take the word of W. A. Blees, vice president and general sales manager of the Crosley division of Avco Corporation who rated the Florida Electrical Exposition next to the Housewares Show in Chicago and said: "It is one of the best I ever saw."

There were 47 exhibits in all and more than 100 different kinds and brands of electrical merchandise and services were represented.

Special Shows

General Motors sent down its "Previews of Progress" show and Baxter Sassen and Al Pannill put on four shows daily during the 11 days of the Exposition in a special auditorium in part of the Exposition building which seated 350 persons at one time.

National manufacturers and Florida distributors look upon the Florida Electrical Exposition, held annually for the past four years, as a place to introduce their new lines statewide in Florida and also to reach thousands of people from other states. The Exposition is sponsored by the Tampa Electric Company, and is one of its major annual projects.

Forty-seven exhibits and more than 100 different kinds and brands of electrical merchandise and services were represented in the Exposition. Held during, and part of, the Florida State Fair, the Exposition was housed in one of the largest and newest buildings on the fair grounds, containing 38,000 square feet of exhibit space. One theme was carried out throughout the building decorations and each exhibitor was supplied with basic "theme" spaces.

Other national manufacturing executives who came to Tampa to see the Exposition included W. A. Saylor, of Kelvinator, Detroit; C. I. White of Dayton and Frigidaire; Davis M. DeBard, vice-president of Stone and Webster Service Corporation who spent five days reviewing the Exposition.

Important Visitors

Florida's governor Fuller Warren was a special visitor as was Senator Claude Pepper, and Senator Spessard Holland.

The president of Seaboard Airlines and all of his directors were taken on a conducted tour through the Exposition.

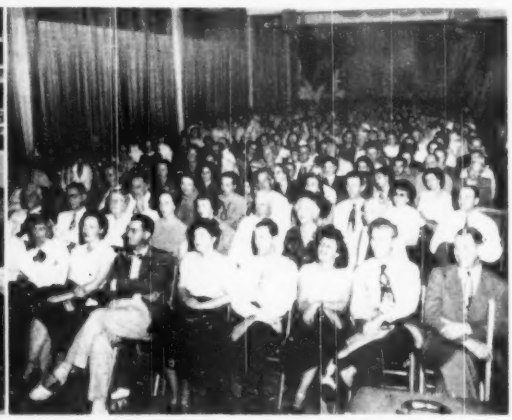
There were "days" for Future Homemakers of America, when more than 700 of these young women from all over Florida were guests of exhibitors and were given special showings of "Previews of Progress." The Florida Press Association came en masse as did the representatives of Florida radio stations. The Girl Scouts, the 4-H Clubs, and Home Economists of Education came as did the State Supervisor of Home Economics. Fifteen Home Economists representing different manufacturers and exhibitors, attended the Exposition.

Kelvinator had its famous exhibit, "From Cave to Kelvinator." Crosley had its talking, animated kitchen. "Gibson Pete," the trained Gibson pig, came to Florida to help announce the Gibson "Piggy Bank" sales campaign, and entertained visitors day and night with its bovine antics. Philco cooked steaks and gave them away. Monarch proclaimed its Silver

Mobile Demonstrations

Anniversary with a giant horn of plenty filled with silver dollars. Visitors guessed the number of silver dollars and the winners were given valuable prizes. International Harvester wrapped and packed frozen foods for visitors. In all exhibits something was going on all the time demonstrating the use of electrical appliances.

(*Continued on page 108*)



(Left) A huge sign over the main entrance proclaimed—"here you learn the secret of leisure living electrically." In all exhibits something was going on all the time demonstrating the use of electrical appliances. (Right) The "Previews of Progress" show was sent down by General Motors, and four shows were put on daily during the 11 days of the Exposition in a special auditorium in part of the Exposition building which seated 350 persons at one time. Special showings were also presented for 700 Future Homemakers of America from Florida.

INVENTORY CONTROL

Many advantages obtained from a simple double-entry system

THE MANY special considerations involved in appliance merchandising, particularly those of service, guarantees, salesmen's commissions, etc., make it absolutely necessary that the appliance department maintain its own inventory control, sales record, and daily record, according to W. D. Morris, major appliance buyer for the W. J. Pettee and Company, department store in Oklahoma City, Okla.

While the appliance department, like all others in the store, is operated on the unit stock control plan typical of most department stores, Mr. Morris has, since taking control of the department, developed an air tight stock control system which he feels has paid hundreds of dollars in additional profit returns to the department, and done away with costly ill will, unfair claims, etc. While the system necessitates a bookkeeper, experienced with the double entry system, the slight additional cost is more than offset in actual savings, Mr. Morris is convinced.

Under the plan, a double entry ledger is used, one page of which, on the left, gives full information on the date of receipt of the appliance, while a corresponding section on the page to the right gives sales information to match. In other words, the double entry ledger, simply adapted from the usual bookkeeping form, is maintained at the sales office of the appliance department. As all new appliances arrive and are uncrated, copies of the memos which cover the shipment

Ledger Procedure

are passed to the ledger keeper, who immediately writes in on the proper column the serial number of the appliance, its model number, description, the invoice number, list price, wholesale price and the source. Simple code symbols are used for much of this information, so that only a few seconds is required to enter it.

Thereupon, the entry serves as inventory information in making up sales, in promising delivery to appliance customers, etc. Through merely checking over the classified entries on the "in stock" half of the ledger, it guards against such embarrassing incurrences as selling from a sample on the floor, only to find that the necessary appliance cannot be delivered at the promised date, or obtained from a local distributor or supplier.

When the appliance is sold, a key number is used to enter on the right page, opposite the date of the sale.

(Continued on page 108)

Appliance Turntable

A REVOLVING turntable containing four household units with electrical appliances, partitioned off from each other, and occupying the front section of the sales floor of William A. Bernstein & Son, Seventh & Kennedy Streets, Northwest, Washington, D. C., is a novel and arresting attraction to public.

It has four separate divisions: basement with sink and stall shower and hot water boiler and laundry; kitchen outfitted with dishwasher, disposal unit and wall cabinet; bathroom with toilet, bath and sink; and living room with furniture and lamps.

How it Operates

The entire apparatus measures 9 feet high and 16 feet in diameter and can easily be seen through the wide open windows. All of the appliances are electrically operated. Motive power is generated by a three horsepower motor in the basement with a shaft continually making complete revolutions in from one and a half to two minutes time. A trough is set underneath the turntable and not visible on the surface and contains a pump for the water pumped in the demonstrating units.

Decorations and Slogans

Interest is heightened not only by the sets on that moving floor, but by the convolved decorations and slogans which are applicable to each of the room units. The sink and stall shower section is captioned, "Lasting Cleanliness Comfort in Your Basement"; the kitchen, "Kitchens as of Today—Your Dreams"; the Lincoln bathroom, "Make Life Beautiful in Your Shower with Lincoln Plumbing Co. Models."

This revolving turn-table in the store of a Washington, D. C., dealer contains four separate divisions which represent basement, kitchen, bathroom, and living room, each complete with appliances and accessories.

OVERCOMING RESISTANCE

by Ernest W. Fair

. . Ten frequently heard reasons for not buying are answered here

"Doing business used to be easy—customers just asked for something and if you had it, you sold it then and there! But now it's getting different—you have to sell, and the more selling you do, the more objections you hear. It's been so long since I had to meet these objections from customers that I've almost forgotten how to handle them!"

That's an excerpt from a recent letter received from an electrical appliance dealer friend. He sought answers to his problem. So we went after those answers to men in business who are today overcoming these objections and doing it successfully.

Here are the objections heard most frequently and a summary of the methods successful salesmen are using to meet them:

1. **"Your price is too high. I can get it cheaper elsewhere."**

If one's prices are not in line, they should be put in line. BUT, all of us have to make a profit to stay in business and when we start giving away that profit we head straight toward bankruptcy. We can't answer that objection by cutting prices further!

Comeback on Service

Successful appliance dealers today meet this objection by pointing out that price-cutters cannot give service on the appliances they sell, back up their guarantee or those of the manufacturers in the future, when and if something does go wrong with a refrigerator, washing machine, or other appliance. They stress how important one's own guarantee is, how helpless the customer will be with the appliance when the dealer from whom they purchased it has gone out of business. They stress one's own special services to one's customers. Sometimes even that fails. Here's what one dealer does about the situation then:

"You say Jones will sell that same size refrigerator for $169.50? Well, he'll go broke doing it, but since you want to take a chance with Jones, let me tell you a little secret. Stick to your guns, tell him we offered it to you for $159.50, and he'll sell it to you for $149.50! He's done it with a lot of his customers!"

Knowing full well that Jones will sell at any price to make a sale under the foolish notion that if he makes even a dollar over his cost it's a dollar profit, this dealer sees to it that Jones sells lower and lower and hastens his business demise by so doing—and that rids him of the competition of another foolish price cutter!

2. **"I'm waiting for the price to go down. They say everything is going down in price soon, so I'll just wait."**

Here's where it pays to know the appliance business. Quote facts and figures to show what it costs to produce a refrigerator, for example. Show how large a part of that cost is in labor—labor not only in production of the refrigerator itself but in fabrication of the steel that went into it. Ask the customer if he expects the unions that control this labor cost to take pay cuts in the immediate future. Few customers believe they will and fewer still ever stop to think about this factor in appliance costs.

Accent on Pleasure

Many salesmen also stress how much satisfaction and use of the appliance the customer is being deprived of by waiting, and point out that even if prices are cut a year from now, the savings will nowhere nearly compensate for the pleasure received from its use during that year.

3. **"I would like to buy that but I'm too heavily in debt now. I would rather wait than take on any more payments."**

We all know that it is foolish to sell an over-burdened customer more merchandise on credit; that's a sure way to drive even the best man to the financial wall. But a lot of people are using this as a sales objection who are merely afraid of the future or who want an excuse to put off a purchase. We should sell such people.

Discussion of Payment

The best method to sell them is to steer them into a personal discussion of their "payment" position and show them how it can be handled. One appliance salesman makes many a sale by showing customers how to consolidate a number of almost paid-out accounts into a single one with a single small payment and thus be in a better financial position even after purchasing the item under discussion than he or she is at present.

Re-financing Setups

This is an excellent approach an appliance salesman can use if he has the personal confidence of his customers and the ability to discuss their personal problems with them. Every city has firms engaged in re-financing such setups (most local banks will do it), so there is no problem in helping the customer to be able to afford what we are seeking to sell him.

4. **"We can get along without it. We'd rather have something else right now."**

That, though too few of us recognize

(Continued on page 107)

"Doing business used to be easy—customers just asked for something and if you had it, you sold it then and there! But now it's getting different—you have to sell, and the more selling you do, the more objections you hear. It's been so long since I had to meet these objections from customers that I've almost forgotten how to handle them!"

G. A. Mundell, head of Mundell Appliance Co., Wellston, Mo., credits 35 per cent of his sales volume to prospects brought in by service operations or the parts department. A five-man repair crew service washing machines in this repair shop at the rear of the store. Separate shops are used for radio, vacuum cleaners, and washing machines.

LAUNDRY SERVICING

Parts and service play big part in volume sale of new washers . .

by Robert A. Latimer

•

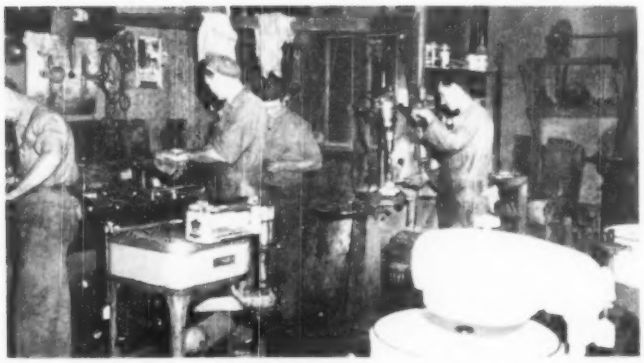
MAINTAINING a washing machine parts inventory averaging $18,000, and keeping a five-man repair crew busy on washing machine service are the methods by which G. A. Mundell, head of Mundell Appliance Company, Wellston, Mo., will keep automatic laundry sales at peak through the forthcoming competitive market period.

Mundell, a veteran of 14 years in service operations, is one dealer who, instead of regarding a parts inventory as a necessary evil, has made it one of his most important customer attracting assets, and capitalized upon it to the extent that the store now can offer St. Louis homeowners parts for more than 35 makes of washing machines and quite often, sell them a complete automatic home laundry in the process.

Last year, Mundell Appliance Company sold a volume of $432,000, the bulk of which was in automatic laundry equipment, refrigerators, and conventional washing machines. Mundell credits at least 35 per cent of this sales volume directly to prospects who were brought in originally by the big parts department, or service operations. Needless to say, he points to laundry service heavily in selling today's tighter money market.

The suburban St. Louis dealer went into the sales field in 1940, when most appliance dealers elsewhere were cutting back on sales and opening up the service end. Contrary to the usual experience, Mundell began selling chiefly to place customers badly in need of washing machines and other appliance equipment who had begged him to locate serviceable rebuilt appliances for them. His early experience with sales enabled him to build a handsome complete electrical appliance showroom and parts shop in 1946, near St. Louis' busiest suburban shopping district, and he began accumulating valuable franchises.

"We have never lost sight of the



Customers are invited to visit the repair shops, and in the stock shelves, Mundell carries parts for 35 well-known makes of washing machines. The customer may buy these parts and install them himself, or he can hire one of the five Mundell mechanics—at a reasonable rate—to make the installation. While repairing washers, the mechanics invite homeowners to drop into the store and see a demonstration of a model laundry. "We consider anybody who buys washing machine parts a logical prospect for new home laundry equipment," says Mundell.

(Top) The $13,000 washing machine parts inventory maintained by Mundell Appliance Company is the first thing the customer sees upon entering the appliance showroom. The parts department window has been enlarged to 10-foot dimensions to give a clear view of bin after bin stocked with wringers, gears, motors, etc. (Bottom) The clerk at the parts counter is a man with 18 years of experience in working with washing machines. This means that almost any question asked by a customer can be answered. Before she leaves the store, she will be asked to look over the automatic home laundry equipment display.

fact that we're a service organization," Mundell said. "Therefore, with the showroom is laid out to resemble that of any modern appliance dealer, we make the customer service conscious from the moment she enters the showroom. First, she sees the big parts department window, which I have enlarged to 10-foot dimensions to give a clear view of bin after bin stocked with wringers, gears, motors, and other washing machine parts.

"Next, she sees an entrance, with a sign inviting her to come back and visit our well organized repair shops, if she wishes. Lastly, every customer is told that we maintain all guarantees on washers, automatic home laundry equipment, ourselves, and that our mechanics are available at $2.50 per hour, plus parts, for any type of home appliance repairs in the home itself.

Because he has always specialized in washing machine parts (as well as vacuum cleaner parts), Mundell, naturally, quickly became one of the St. Louis area's outstanding volume producers in the automatic laundry equipment field. His store was the first in the city to install a model laundry equipped with operating dryer, washer, mixer, etc. When a customer came in searching for parts for a broken down conventional washing machine at home, it was a simple thing for Mundell to steer the home owner to look over the model laundry, sit down and go through a demonstration, etc. Similarly, the five mechanics who make up the service crew constantly invite homeowners to drop into the store and go through similar demonstrations while repairing the prospect's conventional washer. "We consider anybody who comes in to buy washing machine parts a logical prospect for new home laundry equipment," Mundell said, "and therefore, we are probably realizing more dividends from our model laundry than dealers in any other situation."

Servicemen Issue Invitations

The parts department is dramatically emphasized with a big, broad parts window, opening up to show row after row of neatly classified bins. In the stock shelves, Mundell carries parts for 35 well-known makes of washing machines and as many makes of vacuum sweepers, all conveniently packaged for delivery to the customer, and sampled on racks in front.

Self-Replaceable Parts

The parts department is completely stocked for the benefit of home tinkerers who can replace gears, motors, wringers, controls, etc., on their own washing machines, and depend upon Mundell Appliance Company to provide the proper parts. There are very few instances in which a customer comes in for a part which Mundell cannot supply. Through long experience with every make of washing machine, he knows which parts may be substituted in older machines for others, etc., and can usually see to it that the customer's washer is back in operation as rapidly as possible.

Back of the parts room are a series of separated repair shops for washing machines, vacuum sweepers, radios, refrigerators, and small appliances. Neatly uniformed mechanics operate the parts room and the repair shops, both of which have been so consistently busy during 1948 and 1949, that Mundell may find it necessary to add

extra mechanics. One of the most important points in utilizing service as a sales-builder is to put a veteran mechanic on the parts counter. "All of our washing machine parts customers are waited upon by a man who has about 18 years of experience in working with washing machines," he indicated. "Naturally, this means that almost any question the customer asks can be answered."

Wall Display Sells

Parts sales account for about one-third of the $131,000 volume in 1948, in their own right. Vastly more important is the consistent volume of automatic home laundry equipment which has been sold from a new display at the left wall. A firm believer in demonstration, Mundell has built St. Louis' largest active appliance display unit here, occupying 28½ feet. Incorporated along the wall are first an ironer, two makes of automatic washing machines, electric sink equipped with garbage disposal machine, a table model electric hot water heater, electric range, refrigerator, and a variety of small appliances above. With this complete set-up, there is nothing in the home appliance line which Mundell cannot readily demonstrate.

Laundry Selling Program

"Basically, our home laundry equipment selling program consists of encouraging washing machine parts customers, or service shop customers, to sit down and let us put the home laundry through its paces," Mundell said. "Usually, most housewives are interested enough to give us this advantage, and we choose a few pieces of clothing, wash them, dry them, put them through the ironer, and point out meanwhile the advantages of an automatic electric water heater, various small appliances, etc., for getting the job done. Since the mere fact that the prospect is in the store to buy a part indicates that she is getting along with a semi-satisfactory conventional washer, all of our prospects are genuine 'hot prospects.' We naturally offer a trade-in allowance on conventional washers, for new equipment. We spend as much time with home laundry equipment demonstrations as the customer wants, because we know that eventually, when the time comes to buy new equipment, we are in the most logical position to get the business."

All five of Mundell's mechanics, who specialize for the most part in washing machine repairs while out in the territory, likewise turn in tips to Mundell on potential automatic laundry equipment sales. Each is compensated for sales or "missionary work" effort, and Mundell finds the fact that his neatly uniformed mechanics have repaired the home owner's washer an excellent "door opener."

Although the parts department contributes anywhere from 12 to 20 possible prospects per day, and the service crew turns in half a dozen more, Mundell doesn't let his automatic laundry promotion go at that. He is one of the most consistent appliance advertisers in the northeast suburban district, having used both community and city newspapers religiously ever since 1946, without missing a week. His ads are split equally between promotion of the service department, parts department, and new appliance sales—again, with the emphasis always on automatic home laundry equipment. Ads point up the company's 14 years of experience with all types of washing machines, and emphasize that Mundell's is the home owner's bet for anything in home laundering equipment, whether it be a replacement wringer roll, new gears, a conventional washer, or a complete four-piece home automatic laundry.

Cooking Schools

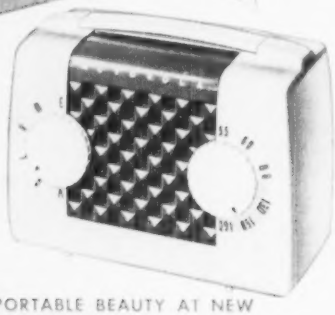
Also, the St. Louis appliance dealer is one of the first to make use of a concentrated cooking school type of promotion. His cooking schools are all run on a personal invitation basis, including eight or 10 couples, exclu-

(*Continued on page 106*)

(Top) This customer has just bought a wringer roll, and is interested in the ironer demonstration being put on by Mr. Mundell, and suggested by the parts department clerk. She is now a prospect for a complete home laundry, for he is pointing out advantages of the other appliances which comprise the ensemble. (Bottom) One of St. Louis' largest active display units is this one along a wall of the store, and occupying 28½ feet. Incorporated are an ironer, two makes of automatic washing machines, electric sink equipped with garbage disposal, table model electric hot water heater, electric range, refrigerator, and a variety of small appliances.

new profits

SPRING and SUMMER



NEW PORTABLE BEAUTY AT NEW LOW PRICE!

Here's a natural value for the budget-wise! Model *5L1*, the "Music Box," shows no compromise with quality. Your customers still get AC/DC and battery operation — can still depend on "big set" power — and can still enjoy wonderful Golden Voice tone. 2-tone tan and brown plastic.

RETAIL PRICE $24.95
Batteries Extra

MOTOROLA'S FINEST IS THE FINEST OF ALL!

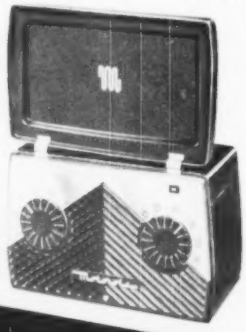
For your customers who demand the finest, Motorola's all-new *6L1* "Town & Country" portable radio plays everywhere — on land — at sea — or in the air. The new precision-engineered 6L1 chassis delivers EXTRA BIG POWER plus EXTRA RICH Golden Voice TONE where most portables fail to play at all! Wafer-thin, new plastic case in forest green with gold trim.

RETAIL PRICE $39.95
Batteries Extra

TINY MITE THAT'S DYNAMITE FOR SALES!

It's Motorola's all new 5M1, the "Playmate Jr.," AC/DC BATTERY "personal" size portable radio! Packs unusual power for its size — delivers Motorola's traditional Golden Voice tone. Plays instantly at a flick of the cover. Sturdy all-metal green case.

RETAIL PRICE $34.95
Batteries Extra



STUNNING "JEWEL BOX" . . . MILADY'S FAVORITE!

The very latest, and smartest in portables — from Motorola, of course! Named the "Jewel Box," Model 5J1 incorporates a Motorola precision chassis for unfailing power and fine tone on AC/DC or battery operation. Rich ebony, jade and gold plastic case.

RETAIL PRICE $29.95
Batteries Extra

Prices subject to change without notice — prices slightly higher in South and West.

new all thru . . . now better than ever

Motorola
PORTABLE RADIOS

MOTOROLA, INC.
4545 AUGUSTA BLVD., CHICAGO 51, ILL.

from a new merchandising idea . . .

PORTABLE GIFT PROMOTION...

check the quick-profit possibilities of this new

gift package!

New . . . brand new '50 Motorola portable radios are packaged in beautiful, eye-appealing gift boxes. And, most important, backed to the hilt with a complete national gift promotion that'll pre-sell for you. Spring and summertime create a natural gift market with special days and events that add extra sales to your usual early summer portable sales. Cash in—stock up—and tie in your local promotion with Motorola's powerful national campaign. ORDER STOCK NOW!

BACKED UP WITH THIS BIG PORTABLE PROMOTION! Here's the biggest barrage of promotional material ever made available . . . built around a *gift slant* to back you up! You'll get sales-pulling portable radio NATIONAL ADS in 17 big-name magazines! You'll have related "gift" MAT ADS in sizes to fit your local newspaper needs! You'll attract business with a special WINDOW DISPLAY and WINDOW STREAMERS to pull customers in your store! Once in, they'll be pleasantly greeted by effective POINT-OF-SALE COUNTER CARDS designed for each gift occasion. And, you'll reach the stay-at-home with gift-pushing TV SPOTS and RADIO TRANSCRIPTIONS. The profits are yours for the taking—take them . . . order now!

contact your Motorola distributor today...

SALES COMPENSATION PLANS

. . Dealers seek incentive pay plan that will increase sales -- at a fair profit

"MONEY TALKS!" It may not be everything, and there are certainly many other factors that influence people in their choice of work, but the fact remains that the payment made for services by an employer to an employee is the best gauge available as to how that employer values the services of his employee.

In this month's *Electrical South Merchandising Survey*, the method of paying appliance salesmen is given careful consideration. In most surveys, the practice is to ask a few well chosen questions, analyze the results, and report the average practice with such comment as may be required to complete the picture. But the answers received to Electrical South's question "How do you pay your salesmen?" defies such simple analysis. Almost all dealers that employ outside salesmen have some sort of incentive sales plan . . . and no two of them appear to be exactly similar.

Since there would be little significance in an average of many diversified plans involving commissions, drawing accounts, salaries, bonuses and prizes, this month's survey will present, instead, a summary of the most interesting and meritorious incentive payment plans used by the dealers participating in the survey.

Plan No. 1

$35.00 a week guaranteed for the first 30 days, then 7 per cent commission for the first $1,000; 8 per cent for the second; 9 per cent for the third; and 10 per cent for the fourth; 11 per cent for over $5,000; all of which is retroactive. This plan is to be changed to percentage of gross profit.

At present, contests are held periodically, and run about a month. In new system, prizes will be put up each week. Points will be given the salesmen for each sale, and the points are redeemable in appliances or clothes. This will be done in two teams. Extra points will be awarded on hard-to-move items to help the salesmen build up sales. Will also give a push from the home front by contacting the wives.

Same percentage on floor as outside. Of the two stores in the city, there are 14 salesmen between them, and there is one man on the floor of each store at a time.

Plan No. 2

All salaried employees get 5 per cent commission, whether truck driver, serviceman, etc., when they sell anything.

All outside salesmen receive straight 10 per cent commission.

This firm reports that if you give commission applied against drawing account, it doesn't work out, as the salesman can never make commission over and above the drawing account.

There are two full-time salesmen, three part-time salesmen. One of the part-time salesmen works in a grocery store, thereby meeting a lot of women, and talking to them. He works one full day for the appliance store a week, and at nights contacts other prospects. Another part-time salesman works for the store two days out of the week.

Plan No. 3

$130.00 guaranteed salary a month plus 2 per cent commission on the first $2,000; 3 per cent on the next $1,000; 4 per cent on the next $1,000; and a flat 8 per cent on all above.

Floor and outside selling equally distributed among salesmen. One man on the floor at a time. Store hopes to have restricted territories, dividing the city into eight zones, and assigning each salesman to one territory. If a customer resides in a certain salesman's zone, then regardless of which salesman sells him, the salesman to whose zone the customer belongs will receive the commission from all ensuing sales to that customer. However, if a floor man sells to a customer in a salesman's zone, he will receive 2 per cent and the salesman 6 per cent.

Plan No. 4

Employees assigned to territories according to postal zone boundaries. Salesman spends two or three hours daily making calls on customers and prospects in his territory. Balance of the working day is spent on the sales floor. All sales made to persons in his zone are credited to him. If he makes the sale, he receives his full commission plus a 2 per cent zone commission; if someone else makes the sale, he receives the 2 per cent zone commission only.

During training period, new salesmen receive $50.00 a week. Afterwards, they are put on draw on commission. They can receive up to 80 per cent of their earned commission in draw. The balance is held for them by the company, and this is paid to them at the end of every three months or held for them in their "pool," to tide them over slack seasons.

Commission on retail sales is 8 per cent. An additional 2 per cent is paid for all retail sales made in the salesman's territory, provided he makes a survey call on the customer within three days of the delivery of the merchandise.

On builders sales, salesmen receive a small per cent commission and an additional 1 per cent if the sale is made in their territory.

Salesmen can also earn extra money by selling slow-moving appliances placed on the "push list." Rather than reduce these items, the salesmen's commission rate is increased to as much as 30% to 40%.

Sales contest prizes total $75.00 to $100.00 monthly.

Plan No. 5

Salesmen receive a 5 per cent commission, and are on a drawing account, being paid monthly.

Five salesmen, who are on the floor all the time now, often can receive a bonus of $5.00 on slow-movers on the floor.

During the summer months, when they have one day on the floor and five days out, they receive 5 per cent commission on the first $4,000 sold, 7 per cent up to $6,000, and 10 per cent for up to $7,000 and above.

Contests are held during the summer, and daily quotas are set. If the quota is reached, they receive $10.00 extra as incentive.

Plan No. 6

One-fourth of gross profit is now being paid to salesmen for immediate sales, and they receive a bonus for reaching a certain quota yearly, also another bonus for staying until the end of the year.

Have found that compensation must be on a yearly basis.

Seven salesmen employed, who have been with the company from 8-17 years.

Have let the salesmen use television sets in their own homes for three months. They are allowed to keep the sets for a period of two weeks longer for every old set they move.

Plan No. 7

No drawing account, but do help the salesmen over the rough spots at the end of the year.

27 salesmen, all on commission, they feel they can make more money than on a salary.

Bonus plan, contests every month. Sales quotas raised with earnings.

Will carry a good new salesman a month if he isn't able to sell at the start.

Plan No. 8

Salesmen on different self-chosen commission bases.

One has a straight commission of 12 per cent, and averages between $350.00 and $400.00 a month the year around.

The other three receive a salary and 5 per cent commission, one man drawing $55.00 a week salary, and the other two $50.00 a week salaries.

Plan No. 9

Beginning salesmen receive minimum salary of $150.00 monthly. Monthly individual sales quota is $2,500.

Above this sales quota, salesmen get 7 per cent on next $1,500, 8 per cent for next $1,000, 9 per cent from then on.

On sales to commercial users, such as apartment houses and building projects, one-third of value of sale is credited toward their quotas.

Sales contests almost every month.

Plan No. 10

Salary arrangement varies, depending on ability of salesman and quota production. Three supervisors draw $200 a month, plus 1 per cent commission. Normal basic salary for salesmen ranges from $80 to $145 a month, plus 3 per cent commission based on annual sales of $20,000 to $35,000. Experienced salesmen prefer an alternate plan of 10 per cent straight commission which applies on everything except television, on which the commission is 5 per cent. But every man who makes his quota earns about 10 per cent.

Contests constitute the principal incentives and are in force constantly, with prizes ranging from suits of clothes to expense paid fishing trips. As many as three contests run simultaneously, with special events at month ends to clean up stock. An annual bonus is added, its size depending on state of business.

For the 22 salesmen, floor days have no effect on remuneration or management. Floor days are taken by the usual rotation plan. Dealer quite satisfied with his plan and cannot see where it can be improved. After the first three months he appraises a new salesman and might increase his salary. At this point the salesman must decide on salary and commission or straight commission and cannot thereafter change his mind.

Plan No. 11

Salesmen work on 8 per cent straight commission on everything sold, from traffic to major appliances. If major appliance is sold with a trade-in, salesman gets commission on the difference. If he then sells the trade-in appliance he gets commission on the full sale price.

An ES MERCHANDISING Survey

This is another of a series of articles reporting actual dealer practices and policies. Next month's survey will cover appliance installation problems.

The same arrangement applies to floor days, which are rotated with salesmen getting both morning and afternoon shifts.

There are no incentive plans, no contests and no bonuses for the five salesmen and the appliance manager in this institution is unhappy, considering that he is not getting the best salesmanship. He wants to make volume of sales a basis of remuneration and introduce incentive plans, but has not been able to sell the idea to management.

Plan No. 12

A drawing account of $50 a week is available to all salesmen, whose basic remuneration is 5 per cent on everything sold. If a salesman moves $3,000 worth of merchandise in a week and $200 worth is returned, his commission is figured at 5 per cent of $2,800, or $140. From this the $50 drawing account is deducted, leaving an income of $90 for the week.

The eight salesmen spend all their time on the floor, as this is a down-town location with extremely heavy traffic. The arrangement is highly popular with salesmen and this store has a waiting list of applicants.

Because traffic produces a high ratio of sales to contacts, there are no incentive plans nor contests. Nor are there quotas beyond the requirement that commissions at least equal the drawing account.

Plan No. 13

All salesmen in two metropolitan stores get 10 per cent straight commission, but each salesman must sell a minimum of ten major appliances a month to remain with the firm.

Contests are used constantly and in a recent contest each of the 12 salesmen posted $10, with the owner posting $400 for a total of $520, the pot being divided on a volume basis among the six salesmen of the winning store.

Floor days receive secondary attention with most work being outside and floor days have no effect on remuneration. Both stores remain open until 9 at night when two salesmen are generally present. Otherwise, a salesman has two periods a week on the floor at which time he serves as "closer."

Salesmen are paid twice a month on the basis of merchandise delivered. This firm, operating in two residential shopping districts, tried salary plus commission, but the arrangement was unsatisfactory for both management and salesmen.

FAR THE BEST BY EVERY TEST!

CHROMALOX
Supreme Units

For modernizing all Electric Ranges

CHROMALOX Units are more widely used on new electric ranges and for replacements than any other, and with good reason! Comparison tests by Electrical Testing Laboratories, Inc. and other independent laboratories proved CHROMALOX superiority time and time again! Such outstanding performance makes CHROMALOX Units the "first choice" of homemakers everywhere.

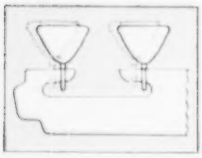
That's why it will more than pay you to handle this famous line for range unit replacement. You'll find that the quicker service, smaller inventory and greater customer satisfaction you get with CHROMALOX will add up to a bigger and better net profit! Write today for Bulletin RU-149.

CHROMALOX UNITS GIVE ALL THESE ADVANTAGES

1 Flat, level cooking surface with free lateral expansion

2 2 Units in 1 for true cooking economy

3 Easy to clean and to keep clean



on new Ranges and for Modernization

CHROMALOX

means "Electric Cooking at its Best"

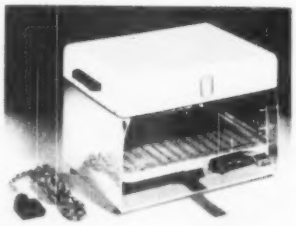
EDWIN L. WIEGAND COMPANY, 7600 THOMAS BLVD., PITTSBURGH 8, PA.

C. B. Rogers, 1000 Peachtree St., N. E., **Atlanta, Ga.**; L. R. Ward Co., 2711 Commerce St., **Dallas 1, Texas**; 932 M & M Bldg., **Houston 2, Texas**; 531 Louisiana St., **New Orleans 15, La.**; 1519 So. Boston St., **Tulsa 3, Okla.**; W. R. Phillips, P. O. Box 2561, **Raleigh, N. C.**; W. R. Phillips, Jr., 3125 Lamb Ave., **Richmond 22, Va.**

NEW PRODUCT NEWS

Infra-Red Broiler

AN ALL NEW infrared broiler has just been introduced by Doolly Company, Merchandise Mart, Chicago 54, Ill.

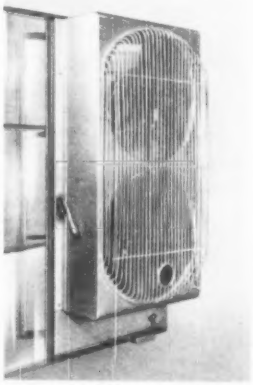


The broiler operates at 1600 watts, 110-120 volts a.c.—d.c. and has a large broiling surface of 9 x 12 inches. It is constructed of porcelain and aluminum, and the infrared element is said to result in even heating. Adjustable for heat and speed, the broiler retails at $19.95, including tax.

■

Casement Window Fan

THE NEW "Fan-Breeze" fan, tailored for the casement window, has been designed for homes, offices, hotels, schools, and institutions of all kinds, according to the manufacturer, Ward Industries, Inc., 820 South Pulaski Road, Chicago 24, Ill.



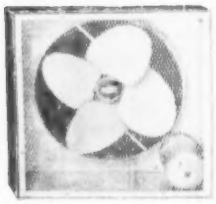
Quiet operation and maximum air removal are provided by the specially balanced, non-metallic propeller blades. In both dimensions and design, it is applicable to quick installation in standard vertical or horizontal

Fresh-Air Makers

FOR 1950 WILL

Sell a Plenty

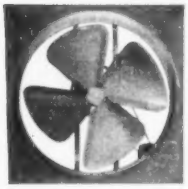
because: they are high quality fans with new features bound to be popular • top performance • good looks • and priced right.



24" WINDOW FAN, CABINET or NON-CABINET—universal outside or inside application—waterproof motor—practically eliminates installation cost—a natural for complete ventilation small homes—a beautiful fully enclosed floor fan.

1950 LEADERS—a low priced, two speed, 16" and 20" window fan, big air delivery, many selling features, attractive and quiet.

FULL POPULAR PRICED LINE 10"—12"—16"—20".



ATTIC FANS

9 models, belt driven, 24"-30"-36"-42"-48"—4200 c.f.m. to 20,500. Automatic shutters and controls.

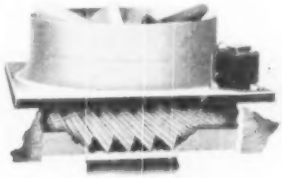
DEALERS • DISTRIBUTORS
CONTRACTORS • JOBBERS

Please send for complete 1950 catalog.

AIR HANDLING AT ITS QUIETEST BEST

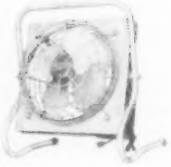
EXHAUST FANS

Direct driven, 5 speed, 12"-16"-20".



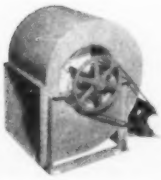
ATTIC-PAKS

Seven models for all popular ceiling applications—24"-30"-36"-42"—all steel—belt driven—ball bearing fans and motors.



PORTABLE FANS

Handy, beautiful, direct driven, 5 speed, 12"-16"-20".



HY-DUTY CENTRIFUGAL BLOWERS

Dozens of models—Single Inlet or Double Inlet—5½" to 25", 200 c.f.m. to 15,000 c.f.m.

A PRODUCT OF

SCHWITZER-CUMMINS COMPANY • VENTILATING DIVISION
1125 MASSACHUSETTS AVENUE • INDIANAPOLIS 7, INDIANA
ENGINEERS AND MANUFACTURERS
of Fine Fans for 31 Years

casement windows or frames and can also be readily adapted for use in attics. Its shallow depth means a minimum protrusion into the room, which is an advantage as to appearance. Fan cabinet extension brackets adjust to fill the entire casement opening, but the crank handle for opening the casement is left entirely free for operation.

By adjustment of side extension brackets, the fan may be installed in any window from 32 inches to 58 inches wide, and fastened to either the upper or lower window with four screws. The window may be opened or closed easily. For attic installation, the unit fastens on top of two joists, requiring no cutting of ceiling joist. The front guard is removed and used as a ceiling grille. Automatic louvers may also be used at ceiling inlet. Tandem square louvers are available for vertical or horizontal applications.

•

Record Changer

A NEW multi-plus automatic record changer has been announced by Motorola, Inc., 4545 Augusta Blvd., Chicago 51, Ill.

The unit, which is of basically new design, is to be incorporated in all new Motorola combination sets. Among its features, the exclusive new changer is said to boast a foolproof tone arm and simplicity of controls. The tone arm is described by company engineers as of the decoupled variety. It cannot be broken by being held or moved when in cycle. It can be moved at will at any time without injury, and thus is simultaneously automatic and manual in its operation, providing flexibility of use.

Controls are simplified in the new changer, and consist of only two moves: selection of the record speed desired by means of the control knob, and pulling out the record rack to the desired record size. Any size record can be accommodated, whether 7-inch, 10-inch, or 12-inch diameter.

The tone arm's cartridge has a permanent Osmium-tipped needle designed for all three speeds (33 1/3, 45, and 78 r.p.m.), requiring no shift from standard to micro-groove size.

An alternate reject knob, worked by a simple twist, will reject any record at any point of progress before completion.

With a new design, the changer's record holder grips records firmly and with added record protection.

•

Electric Churn

A NEW ELECTRIC churn with 3-quart churning capacity of heavy cream or whole milk has been developed by Alabama Manufacturing Company, Birmingham 3, Ala., to meet the needs of three-fourths of the 4,800,000 electrified farms, as well as the millions of families living in small towns.

The new churn, Model 4Q1, churns in a few minutes, and has a heavy duty, cool-running, slow speed motor with chrome steel housing. The aluminum shaft and dasher are detachable and adjustable. The 4-quart Duraglas container is designed in black and gold.

In addition to churning, the product has many other uses for mixing and whipping. Retail price is $12.95 complete with the 4-quart glass'ro.

•

Laundry Equipment

THE Westinghouse Electric Appliance Division, Mansfield, Ohio, has announced three new laundry equipment products: a 110-volt automatic clothes dryer, a Laundromat that will sell for $50 less than the 1949 model, and a 220-volt automatic clothes dryer that reduces drying time by one-third and is priced at $40 below last year's model.

The 110-volt dryer—called the D-3A—has been made possible by a newly developed air-flow system that directs fan-blown, heated air directly into the center of the tumbling clothes from an opening in the loading chute inside the machine. Its drying time for a full load, fully dry, is less than two hours, while the same load can be damp-dried for ironing in less than 50 minutes. The D-3A carries a suggested retail price of $199.95.

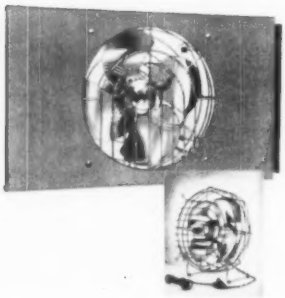
Carrying the same suggested list price and also equipped with the new air flow system is the D-3, 220-volt automatic clothes dryer. This machine can completely dry a full load of washing in less than an hour and damp-dry the same load in approximately 35 minutes.

The new model Laundromat—the L-3—carries a suggested list price of $269.95 and is styled in the slim slanting front and load-shelf door cabinet as the clothes dryers. This model is equipped with a "Water Saver" control that regulates the amount of water to be used for the various size loads of clothes. Newly featured is a weighing door that assures the user that every load will be washed and rinsed in the correct amount of water.

•

Ventilator Fan

A 12-INCH COMBINATION window ventilator, desk, and portable fan, Model No. 2019, has just been introduced by Dominion Electric Corp., Mansfield, Ohio.



The new fan is adjustable to any size window from 24 inches to 36 inches wide. It is easily installed in either the upper or lower part of the window, and will completely change the air in an average size room every 2 minutes.

It can be quickly converted into a portable, desk-type or floor fan by removing four wing nuts, without the aid of tools. Retailing for $19.95, the combination fan has a heavy duty 4-pole induction type motor and oil less type bearings. Silent operation is attained with no radio interference. The off-on switch is located in the

10-foot cord. The fan operates at 110-120 volts, 60 cycle a.c., 65 watts, 1550 rpm, will move 1,000 cubic feet of air per minute, and weighs approximately 20 pounds.

•

Range-Refrigerator

A DUAL-PURPOSE cooking-refrigeration combination, the General Chef combination range-refrigerator, has been announced by General Air Conditioning Corporation, 4542 E. Dunham St., Los Angeles 23, Calif.

The all-electric combination is available in two models, the 115-volt unit, with two 850-watt burners and three cooking speeds, and the 220-volt model, with 3 electrical burners including one 1250-watt, one giant 2100-watt burner, and seven cooking speeds.

Cooking facilities, refrigeration, and dry storage occupies less than 4 square feet of floor space. The top is porcelain and removable for cleaning. The combination was designed specifically for apartments, motels, offices, cabins, medical buildings, public and private institutions, guest or recreation rooms, etc.

•

Gibson Refrigerator

SPECIAL RECREATION model G-800, manufactured by Gibson Refrigerator Co., Greenville, Mich., is now in production and immediately available to dealers.

The interior of this model has been redesigned to offer a maximum amount of shelf area and many convenience features, at the suggested retail price of $249.95.

The family size 8-cubic foot box includes the Freez'n locker-Fresh'ner Shelf combination and glass-top sliding crisper drawer. Three full-width shelves, and one small shelf provide 15.56 square feet of shelf area.

So Easy

TO MAKE MORE MONEY *faster!*

1 Just slide it into place

2 Hook it up

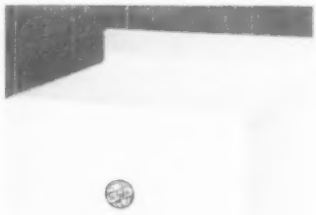
3 Minutes—the job's done!

WHITE'S

NEW PORCELAIN TABLE TOP

Electric

"WATER-HOTTER"



You pick up fast profits with this one! So easy for your prospects to see how the simple installation saves time, cuts costs, that they practically "buy on sight"—specially because it's also such a *handsome* addition to any kitchen! Features the famous *Water Hotter* principle that delivers 6.9% MORE hot water than utility requirements—at NO extra cost.

Sales Up 58%

Dealers sold 58% more *White Water Hotters* in 1949 than in '48—right in the face of a sales drop for the industry! That's because White's features make "prospectors" out of prospects—White's national advertising reaches YOUR prospects, helps pre-sell them—White's prices are competitive "as all get out"!

For performance instead of promises—for PROFITS instead of predictions—call your White Distributor *right NOW* . . . or write White direct TODAY!

GAS OR ELECTRIC

Brand new Tank and Electric Models! Complete the Line of White Cylinder and Table Tops. All Water Hotters. See them at your distributor's today!

WHITE PRODUCTS CORPORATION

Hot Water Specialists Since 1930

Middleville, Michigan

Patented
Copyright 1949, White Products Corp.

Names and Faces

The General Electric Company's electronics department, Syracuse, N. Y., has established an office in the Electric Building, Houston, Texas, as a part of its Southwestern District operation.

Arthur A. Brandt, general sales manager, said the new office will come under the district headquarters at Dallas and will cover the sales operations of **C. G. Allen** on radio and television receivers, **Louis Peine** on radio communications equipment, and **D. F. Booth** on replacement tubes and parts.

The department has nine main district offices in metropolitan centers throughout the U. S., with branch offices in ten other cities.

•

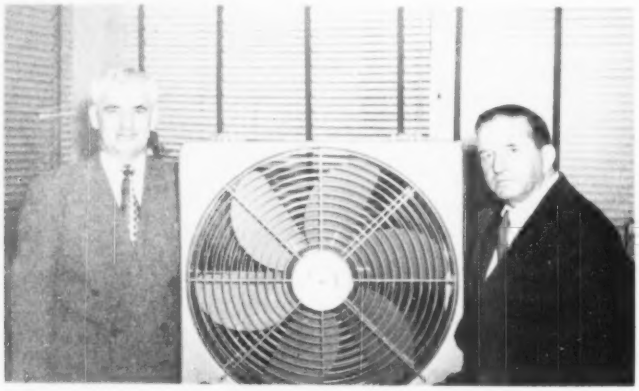
J. L. Johnson, Gibson general sales manager, announces the appointment of **G. L. Rees** as manager of Gibson sales. Mr. Rees, in his new capacity, will be responsible for the sale of Gibson refrigerators, electric ranges, and home freezers through all types of distribution in the United States.

In making the announcement, Mr. Johnson said, "Mr. Rees' responsibility will be to gear factory sales programs to sales activity by Gibson's 16 divisional sales managers in the field. This is another step in Gibson's program to develop the most efficient method of Gibson distribution in the United States." Mr. Rees will report directly to the general sales manager.

Mr. Rees was previously chairman of the electric water heater section of NEMA and is currently vice-chairman of NEMA's electric range section and a member of the sales committee.

•

E. L. McCarthy, well known in national distribution and merchandising circles, has been appointed director of marketing for **C & H Air Conditioning Fan Co., Inc.,** of Atlanta, Ga., according to an announcement by **W. C. Cottongim,** president.



W. C. Cottongim, left, president of C & H Air Conditioning Fan Co., Inc., of Atlanta, has announced the appointment of E. L. McCarthy, right, as director of marketing for the southern manufacturers of ventilating equipment. Mr. McCarthy will be responsible for all marketing activities, including sales and advertising, for the C & H Shovelaire line of fans. The newest addition to the line is the window fan shown here.

This appointment is in line with the greatly expanded distribution program of the company, manufacturers of ventilating equipment.

With a background of many years in both retail and wholesale distribution of electrical appliances and equipment, including 20 years as a promotion executive of Sears Roebuck, Montgomery Ward, Marshall Field, and merchandising director of Speed Queen Corporation, Mr. McCarthy will be responsible for all marketing activities, including sales and advertising, for the C & H Shovelaire line of fans for home, commercial, and industrial applications.

Sales headquarters will be maintained at the company's main plant at 1501-1623 DeKalb Ave., N. E.

•

Edward L. Cavill has been appointed assistant manager of General Electric appliance sales in the Southeastern district, it has been announced by **A. M. Sweeney,** general sales

WARD COMES SOUTH—James Fabric, center, sales manager of Edgar L. Ward Industries, Inc., Chicago, Ill., manufacturers of air circulating and ventilating equipment, has announced the appointment of the W. J. Milner Co., 602 Marietta St., N. W., Atlanta, Ga., as manufacturers' agents to represent their complete line of ventilating fans in the states of Virginia, North and South Carolina, Georgia, Florida, Alabama, and Tennessee. With Mr. Fabric are Willis J. Milner, left, and Sexias Milner, right, both of the Milner Company.

manager of the company's **Appliance & Merchandise Department.**

Mr. Carvill was formerly sales representative for G-E heating devices in Philadelphia. A graduate of the University of Kentucky, he joined the company in Schenectady, N. Y., in 1935.

•

Perfection Stove Company announces the appointment of **Marion A. Miller** as manager of its Atlanta, Ga., sales district. He replaces **C. C. West**, who is retiring.

Marion A. Miller

Mr. Miller came to the Atlanta District as a salesman in 1936, after four years with the Escambia Furniture Co., a Rhodes, Inc., store in Pensacola, Fla.

In 1942, he left Perfection to go with the Oneal Furniture Co., in Tampa, Fla., as assistant manager. He returned his post until 1947, when he returned to Perfection Stove Company as an Atlanta District salesman. In 1949, he was appointed assistant manager of the District.

In his new post, he will have charge of the sales of Perfection products throughout the Southern states.

•

Dr. Allen B. Du Mont, president of the **Allen B. Du Mont Laboratories, Inc.**, has announced the appointment of **Douglas Day** as director of advertising.

Mr. Day, who was executive vice-president of Buchanan & Company, Inc., will coordinate the advertising, sales promotion, and merchandising activities of the television receiver sales division (Du Mont telesets) and the Broadcasting Division (Du Mont Television Network and company-owned stations).

Henry Gevelin will continue as advertising manager of the Receiver Sales Division. A new advertising manager for the Broadcasting Division will be named soon.

Spark Spring Sales

with this

ELECTRIC HOUSEWARES WEEK SPECIAL MODEL EVERHOT DELUXE ROASTER-OVEN

RETAIL PRICE **$29.95**

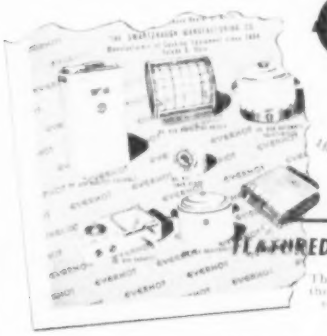
—Everhot gives you something new, dynamic, startling, to bring the electric housewares shopper into your store—a special Everhot Roaster-Oven with many deluxe features, for only $29.95.

Spark the interest of the shopper into buying action. Here is a perfect example of Everhot "Outstanding Value"—known high quality at a price that makes it such a marvelous bargain that no woman can resist it.

Production of this Everhot "Electric Housewares Week Special" is limited. A specific allotment has been set aside for your territory.

Contact your Everhot distributor or the factory by phone, wire or letter and get your order request on record. You may not get all you want, but you will get some—if you act promptly.

There will be no opportunity for repeat orders.



EVERHOT

ELECTRIC HOUSEWARES SELL THE WHOLE LINE

• Everhot Roaster Ensemble, Roasterettes, rangettes, blankets and heaters all offer unusual sales appeal features. Show them. Display them. Sell them.

FEATURED IN THE POST

The Everhot color advertisement in the Electric Housewares Week special edition of Saturday Evening Post, April 15, features these Everhot products.

SOUTHERN REPRESENTATIVES

S. F. SCHOOLAR COMPANY, Virginia, South Carolina, North Carolina, 7 Shockoe Slip, Richmond, Virginia; 2010 N. Davidson, Charlotte, N. C.
R. G. TITHERINGTON, Louisiana, Mississippi, 703 Camp Street, New Orleans, La.
J. D. SHEEHAN, Texas, Oklahoma, 5911 La vista Drive, Dallas, Texas
FRANK W. COLLINS, Georgia, Florida, Alabama, Eastern Tennessee, 788 Spring St. N. W., Atlanta, Ga.
E. J. CAMOS, Missouri, Arkansas, Western Texas, 3970 Pine St., St. Louis, Missouri
L. S. HOWARD, Kentucky, West Virginia, 316 K. of P. Building, Indianapolis, Ind.

THE SWARTZBAUGH MFG. COMPANY
TOLEDO 6, OHIO

News Roundup

Wholesalers Study Sales Presentations

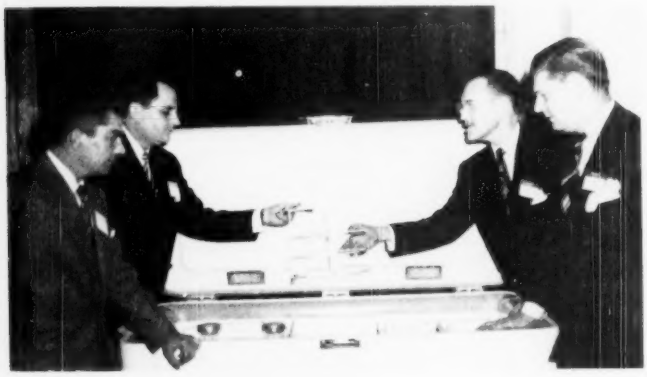
More than 50 Crosley distributors and wholesale salesmen from the Southeastern region met in Atlanta recently for a three days' sales training conference.

Frank D. O'Sullivan, Jr., Southeastern regional manager, opened the conference and then with Crosley factory and regional personnel outlined detailed plans for Crosley's organizational, retail sales training, and spring promotional activities.

The wholesale representatives who come from Georgia, Alabama, Tennessee, Florida, North and South Carolinas, watched as Crosley's regional personnel put on sample retail sales presentations on all of Crosley's 21 products.

The conference, one of a series of 10 being held in regional cities around the country, featured sales and activities presentations by Crosley's sales promotion manager, Tom Mason; range manager, "Spud" Rissmiller; freezer manager, Thoben E. Elrod; sales promotion assistant, Charles A. Greene; Doris Pipes, of the Home Economics Department, and manager of builders' sales, Frank Hughes.

Atlanta office personnel participating were J. C. McDevitt, radio and television, Ken Luse, ranges and water heaters, H. A. Davies, Jr., refrigeration and freezers; W. E. Hocksher, kitchens-builders; Mary Helen Carlisle, regional home economist; L. R. Walker, business manager; and F. D. O'Sullivan, Jr., regional manager.



Wholesale representatives from six southeastern states listened to sample sales presentations on 21 Crosley products at a three-day regional sales training conference held in Atlanta recently. Looking over the Crosley home freezer here, left to right, are F. D. O'Sullivan, Jr., southeastern regional manager; Thoben Elrod, freezer manager; Tom Mason, sales promotion manager; and H. A. Davies, regional refrigerator and freezer manager.

Distributor Institutes Novel Sales Campaign

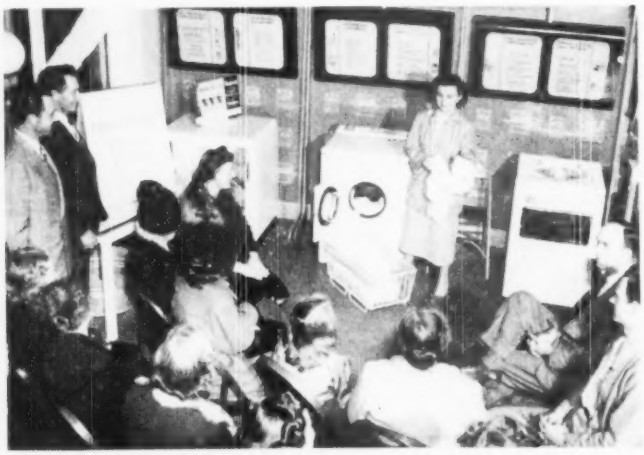
A Carolinas distributor for Bendix Home Laundry Equipment, Southern Appliances, Inc., of Charlotte, N. C., has formulated and is now putting into operation a promotion which will expose 2,000 North and South Carolina housewives to a complete demonstration, including both the washer and the dryer, in a two-months' period.

The sales campaign has already noted results that tend to counteract the mid-winter slack season. Known as "Workless Washday Clinics," the demonstrations are completed by appropriate props and literature that have been produced to give the campaign terrific impact on the consumer market. The housewife is invited personally to attend a session, demonstrating how easy washdays can be.

Three additional home demonstrators have been employed to carry out the program, reports C. D. Mitchell, president of the corporation. Bonuses are given to housewives attending the clinics, and additional bonuses are available to prospects who wish a free home demonstration of the product.

The promotion began the third third week in January, and was scheduled to be over into the month of February. Each dealer conducting clinics entertained nine different groups of housewives, three groups present each day.

Mr. Mitchell has reported to Electrical South the results of three such demonstrations. Total



Mrs. Helen Holland, special home service director for Southern Appliances, Inc., Carolinas distributor for Bendix products, is shown presiding over one of the popular "Workless Washday Clinics." Large crowds have been entertained and instructed during the demonstrations, with attendance numbering 164 at one of the clinics.

attendance at one clinic was 32, the dealer sold ten washers, and has nine washer prospects, two ironer prospects, and three dryer prospects.

Total attendance at another clinic reached 45, and Mr. Mitchell reports six washers sold and 12 "sure-fire" prospects. Largest attendance yet reported was that of 164 housewives, the dealer sold 12 washers, one refrigerator and one hot water heater.

Sylvania Announces Television Guarantee

Effective March 20, all television picture tubes manufactured by Sylvania Electric Products Inc., carry a one-year guarantee, it was announced by C. W. Shaw, general sales manager of the Radio Tube Division.

Sylvania has previously had a form of warranty which involved a prorated charge based on tube use. According to Mr. Shaw, the new one-year guarantee will greatly simplify procedure and offers the public greater protection and service.

"If a picture tube sold by Sylvania fails, because of defects in materials or workmanship, within one year of the date of shipment from our factories or warehouses," Mr. Shaw said, "we will replace it without charge. This applies to tubes sold to set manufacturers for original installation and to Sylvania distributors for replacement and service to their customers."

A code date stamped on every television picture tube at the time of shipment will determine whether that tube is within the adjustment period.

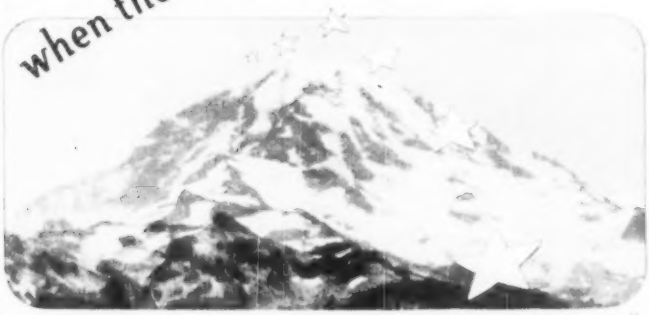
"In order to be replaced free of charge, a Sylvania television picture tube must be returned to the factory for inspection," Mr. Shaw disclosed. "Set manufacturers must return the tubes directly and ultimate users must call their servicemen who, in turn, will arrange for returning the tube to Sylvania through authorized distributors."

NEMA Fan Section Releases Manual

One of the most helpful and interesting books ever released on the general, over-all subject of an electric appliance is "Fans for Year-Round Comfort—the new electric fan manual about ready for distribution to dealers and salesmen, as well as to home economists, student and consumer groups.

This publication covers the use of

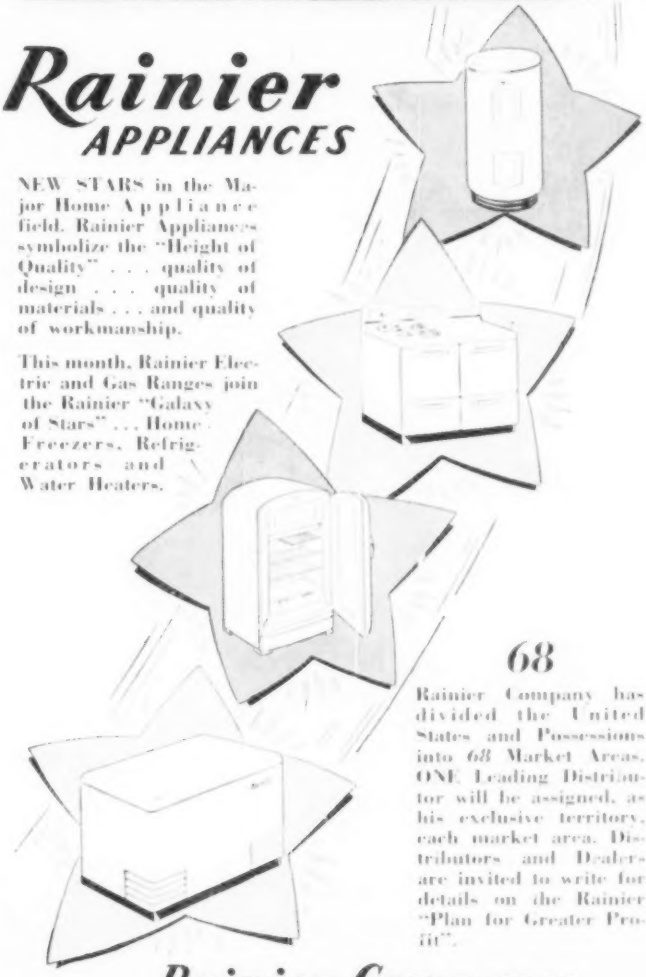
when the STARS come over the mountain



Rainier APPLIANCES

NEW STARS in the Major Home Appliance field. Rainier Appliances symbolize the "Height of Quality" . . . quality of design . . . quality of materials . . . and quality of workmanship.

This month, Rainier Electric and Gas Ranges join the Rainier "Galaxy of Stars" . . . Home Freezers, Refrigerators and Water Heaters.



68

Rainier Company has divided the United States and Possessions into 68 Market Areas. ONE Leading Distributor will be assigned, as his exclusive territory, each market area. Distributors and Dealers are invited to write for details on the Rainier "Plan for Greater Profit".

Rainier Company

UNIVERSITY at E. HENNEPIN, MINNEAPOLIS 14, MINNESOTA

ELECTRICAL SOUTH

VOL. 30 NO. 4

APRIL 1950

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TEXTILE INDUSTRIES
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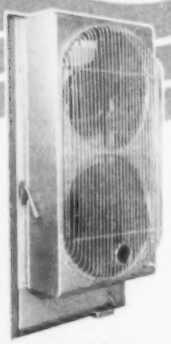
WARD

TWIN-BREEZE

Patent Applied for



The VERSATILE TWIN

"4000"

DESIGNED FOR COMPACTNESS

The TWIN-BREEZE has a smooth tone baked enamel grey hammerloid finish. The silver finished grille guard is closely spaced for added safety. The compact size and shallow depth of unit offers minimum protrusion. 3 speed 4000-2500-1500 CFM.

TAILORED FOR THE CASEMENT WINDOW

STANDARD DIMENSIONS of this versatile twin fan make it applicable to quick installation for standard vertical or horizontal casement windows and or frames to 58".
MAXIMUM ADJUSTABILITY—Fan cabinet extension brackets adjust to fill entire casement opening. Crank handle for opening casement is left free for operation.
AUTOMATIC LOUVERS—Two square louvers in tandem for vertical, horizontal and attic applications.

ADJUSTABLE TO MANY APPLICATIONS

For Homes, Offices and Institutions, plus for attic and false ceiling installation, requiring no cutting of ceiling joists.

EDGAR T. WARD INDUSTRIES, INC.

MANUFACTURERS OF QUALITY *Air Circulating & Ventilating Equipment*

830-34 SOUTH PULASKI ROAD, CHICAGO 24, ILLINOIS • PHONE NEvada 2-3272

Air Circulators — Exhaust Fans — Home Coolers — Portable Man Coolers — Window Fans

W. J. MILNER & CO.
602 Marietta St. N.W.
Atlanta, Ga.

TOM FIELDER COMPANY
202 Insurance Bldg.
Oklahoma City 2, Okla.

E. I. JONES CO.
National City Bldg.
Dallas, Texas

electric fans for year-round comfort, not merely for summer alone. Such all-year use is described as a new idea in step with modern living.

It brings together for the first time information on the choice and use of electric fans for home comfort. It explains why and how air in motion cools the home in summer, and helps the uniform distribution of heat in winter. It tells how to apply electric fans for many other different practical uses, describes the different types of fans, and shows how to analyze home comfort requirements in the light of fan needs.

One of the winter fan uses not usually thought of is the prevention of stratified air in heated rooms, where a layer of heated air near the ceiling is warmer than necessary, while the air at floor level is cold. An electric fan, properly placed, circulates the air, mixes it up so that the entire room is comfortable.

"Fans for Year 'Round Comfort" sketches the history of fans, starting with the ancient Egyptians, through the invention of the first electric fan in 1880, and down to the present day. It explains how fans once occupied an important place in royal court ceremonies, the office of royal fan bearer in those earlier days being an honor.

The characteristics of the electric fan and how it circulates the air in a room is fully explained, and there are suggestions on how to apply the proper size and type of fan for a given space, and how best to use it for maximum efficiency.

Among the unusual fan uses described are those of keeping the home free of odors by providing ventilation, the prevention of mustiness and dampness in closets and basements through exhausting stale air, the cooling of cooked foods quickly before they are placed in the refrigerator, and the faster thawing of frozen foods before cooking. Another helpful suggestion is how to use a fan to hasten laundry drying indoors when the weather is inclement.

The various types of electric fans are described, and an accurate rating table based on NEMA Standards shows how to choose fans.

The sixteen page publication is intended primarily for instruction through dealers' salesmen, teachers, and home economists. Single copies will be sent free on request to Electric Fan Section, National Electrical Manufacturers Association, 55 East 45th St., New York 17, N. Y. The manual, in quantities, is obtainable at nominal cost, as is the four-page companion piece folder, for broadcast public distribution.

New Distributor and Agent Appointments

New Silent Breeze fan distributors have been announced by the Ventilating Division of the Holcomb & Hoke Mfg. Co., Inc., 1545 Van Buren St., Indianapolis 7, Ind.

Included in the appointments are Walker-Martin, Inc., Raleigh, N. C., with a branch in Greensboro, N. C.; Hinkle Supply Co., Birmingham, Ala.; Clower Electric Supply Co., Mobile, Ala.; Frost Electric, Inc., Nashville, Tenn.; The Cimrin Co., Chattanooga, Tenn.; Jackson Electric Supply Co., Tyler, Texas; Maxwell Brothers Supply Co., New Orleans, La.; and Watson Electric Supply Co., Dallas, Texas.

•

Appointed exclusive distributor for DuMont television receivers in the Virginia-Carolina trading area is Norfolk Distributing Co., Norfolk, Va.

The firm, which has offices and a 75,000-square-foot warehouse at the foot of Jackson Street in Norfolk, is said to be the largest housewares distributor in the territory.

Norfolk Distributing was organized in 1945 and in four years has established itself as one of the most progressive and aggressive merchandising organizations in the South. Harry L. Snyder is president of the firm and Edward D. Snyder, his brother, is general manager.

Also announced by DuMont is the opening of a regional receiver sales office at 5012 Highland Park Village, Dallas 5, Texas. The telephone number is Lakeside 4537, and the office will serve as headquarters for Bill C. Scales, Du Mont's southern states regional sales manager.

•

Several new representatives have been announced by the Sampson Unit of Corp., Rochester, N. Y., to handle sales of Sampson electrical appliances.

Included in the appointments are Martin Van Brauman Co., 6423 Glendora St., Dallas, Texas, who will cover Texas, Oklahoma, Arkansas, Louisiana, and Mississippi, and the Fred A. Wiebe Co., 710 No. 12th St., St. Louis, Mo., who will cover Missouri, Kansas, Iowa, and Nebraska.

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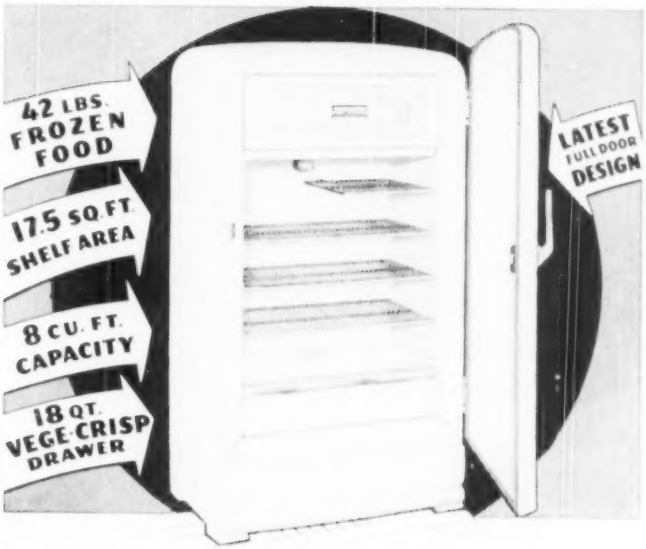
The appointment of Capital Radio & Television Co., 450 Third Ave. No., Nashville, Tenn., as Central Tennessee distributors of the full line of Thor home laundry appliances has



MODEL AT8D, 8 cu. ft.
16 sq. ft. Shelf Area

MODEL U8SC, 8 cu. ft.
15.2 sq. ft. Shelf Area

MODEL U8SH, 8 cu. ft.
15.2 sq. ft. Shelf Area

4 MARQUETTE *Refrigerators*

★ **With Features People Want Most**
★ **Highest Quality ... yet priced Right!**

MODEL AT8C — It's a streamlined beauty, incorporating the very latest in Design, Freezing and Refrigeration. Features the latest Full Door design and is completely refrigerated from Top To Bottom. Large Frozen Food Compartment and extra roomy shelf area combine to make it one of the most popular Marquette Refrigerators.

Large Across-the-Top Freezer — stores 42 pounds of Frozen Food plus 28 Ice Cubes. The flexible Aluminum Ice Cube Trays feature Polyethylene Plastic Grids.

Roll-A-Grip Latch — a gentle pull on the handle opens the door. Fingertip pressure automatically closes door with the Roll-A-Grip silently pulling the door tightly shut.

Full-Width Vege-Crisp Drawer — Keeps Fruits and Vegetables fresh and crisp. Glass Cover Shelf conserves moisture and gives good visibility of contents. 18 quart capacity.

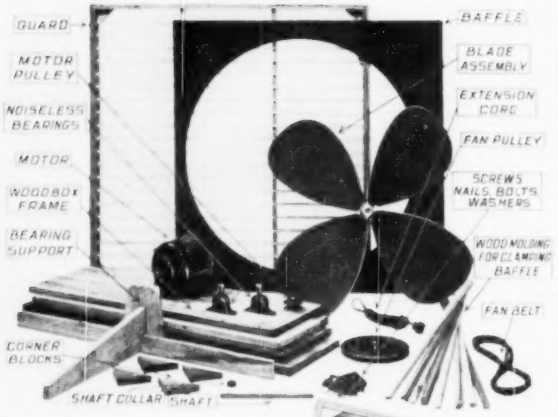
"Pancake" Type Tecumseh Compressor — the most modern, efficient and QUIETEST Compressor ever developed. Small in size, a Giant in Performance. Internal spring mounted. Statically cooled. Hermetically Sealed and Permanently Lubricated.

Other Features — Dependable 7 position Cold Control. Full 3 inch Fiberglas throughout. High Baked DuPont Dulux exterior and extra durable, newly developed Dulux interior.

WRITE TODAY for Bulletin R5497.
It describes the popular Marquette AT8C Refrigerator. We'll send you the latest details on the fast growing Line of Quality Home Appliances.

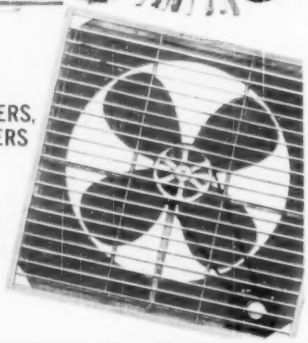
MARQUETTE APPLIANCES, Inc.
Minneapolis 14, Minnesota

MARQUETTE *Appliances*



BIG MONEY FOR DEALERS, JOBBERS

With the Fastest Selling Fan Yet!



Completely packaged: everything that's needed, quality parts—at a very low price. Everybody's looking for low prices—your customers will snap 'em up. Fast seling—quick turnover—good profit!

WRITE FOR INFORMATION

S. J. STEWART ELECTRIC

527 St. Joseph St. New Orleans 12, La.

Highest Quality Water Heaters at COMMON SENSE COST

Important selling features make these water heaters move fast and yield greater profits to you.

- Elno Rustopper Anode Rod
- Wheeling Extra Heavy Tank
- Westinghouse Heating Element and Thermostat
- Fibre Glass Insulation
- Ten year guarantee and warranty plan
- Peak Performance — — Peak Profit
- Table Top and Upright Models

Write for

Full Information and Literature

ADACAR MANUFACTURING CO.

NAPIER FIELD DOTHAN, ALA.

been announced by Thor Corporation.

The distributing firm is a partnership headed by Manuel and Robert Eskind.

•

SEVERAL NEW distributors have been named by the Whirlpool division, Nineteen Hundred Corp., St. Joseph, Mich. Included in the list is Wholesale Appliances, Inc., 965 S. W. 8th St., Miami, who will distribute Whirlpool home laundry equipment.

Also new Whirlpool distributors are Richmond Hardware Co., 101-111 So. 14th St., Richmond, Va., and Currey's Wholesale Distributing, 109 Sixteenth Ave. So., Nashville, Tenn.

Heater Promotion Campaign In Progress

A PROGRAM of cooperative electric water heater promotion was inaugurated by Southern West Virginia distributors at a meeting in Charleston recently which was sponsored by the Appalachian Electric Power Co. The promotion campaign began in March and will continue through April.

Among those attending the first meeting, which was held at the Ruffner Hotel, were: G. C. Smith, W. C. Collins, and M. W. Scott of the Appalachian Power Co.; A. Rogers, Bluefield Supply Co., (Hotpoint); C. F. Tucker, sales representative, Frigidaire; Frank Hill, Virginia Electric Co., Charleston, (General Electric); James Wolfe, Charles Electrical Co., (Norge); E. C. Salmons, Jones-Cornett, Charleston, (Kelvinator); Witt Huffman, R. H. Kele Co., Clark, David Gilliam, Jr., Eskew, Smith & Cannon, (White); James Bailey, American Radiator & Sanitary Supply Co., and H. E. Hughes, Thomas Field & Co., Charleston, (Westinghouse).

Brown Distributing To Sponsor TV Baseball

FOR THE SECOND consecutive year Brown Distributing Co., North and Central Georgia wholesale distributor for Philco and Speed Queen products, will sponsor the telecasts of the Atlanta Crackers Southern League baseball games.

The popular Southern League team's home games will be televised over Atlanta's WAGA-TV this year, starting April 1. Eighty-seven home games will be telecast during the season, originating at Ponce de Leon

Park, home of the Crackers.

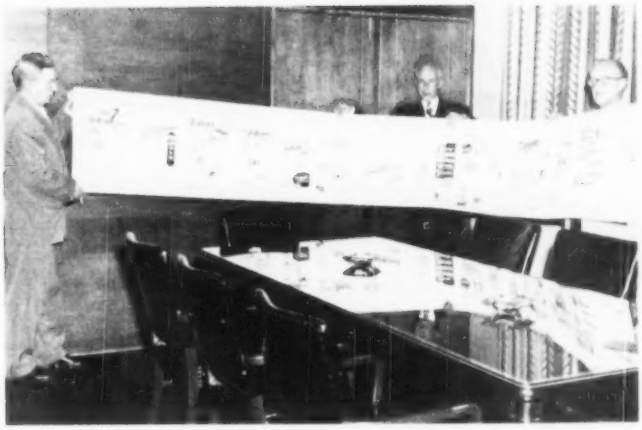
"Last year's telecast games were tremendously popular," said J. C. Brown, president of Brown Distributing Company. "There were only 6,000 TV sets in Atlanta at the outset of the season, but we still received a tremendous sales boost — and that boost was quickly discernible." Mr. Brown estimates that at least 30,000 sets will be in use in the Atlanta area at the 1950 season's start.

Gibson Reveals Detailed Program

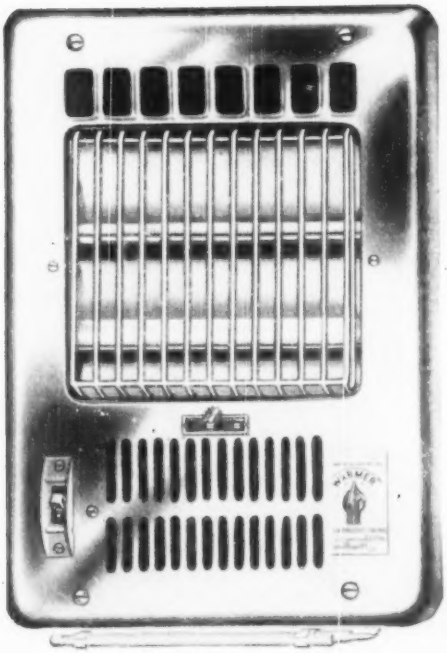
A COMPLETE and detailed program developed for appliance distributors and dealers has been set in motion by Gibson Refrigerator Co., according to Gregory V. Drumm, advertising and sales promotion manager for the Greenville, Michigan, firm, manufacturer of electric refrigerators, ranges, and home freezers.

The plan carefully blueprints the advertising and sales promotion programs for Gibson products in each of its 92 major market territories.

It sets up the number of ads and number of inches of advertising needed to accomplish the sales goal in each distributing area. It gives timing of ads and gearing of appeals in



Gibson Ad Manager G. V. Drumm shows how Gibson ad program blankets key city markets—current Gibson Key City advertising program offers Gibson dealers powerful attention getting ads. Designed to meet the trend of today's market, the 20 foot roll of Gibson ads shown in the photo carry out Gibson's 1950 theme, "For Only Pennies a Day Only Gibson Offers You Never-Seen-Before Advantages." Shown with the roll are Mr. Drumm, manager of advertising and sales promotion; Greg L. Rees, manager of Gibson Sales; and John R. Christensen, of Gibson's Sales Department.



SERIES 230 HEETAIRES — 1250 TO 2000 WATTS
WITH OR WITHOUT BUILT-IN THERMOSTATS

HEETAIRES

give you EVERYTHING your CUSTOMERS want . . .

- ★ 1000 to 6000 Watts
- ★ Radiant, Black and Fan-Forced Heat
- ★ Built-in or External Automatic Thermostatic Heat Controls
- ★ Wall-Inserts, Wall Surface Attachables and Portables

UL *Tested and Listed Under Reexamination Service by Underwriters' Laboratories, Inc.*

There's a HEETAIRE for every purse and purpose . . . and when you sell HEETAIRES, you sell the right electrical space heater for both!

And that means *more sales* and *more profits* for you!

DEALERS: *Write us for your free "GUIDE TO QUICK HEATING" — and the name of your nearest HEETAIRE wholesaler.*

WHOLESALERS: *Write us for the HEETAIRE sales-and-profit story — and the name of our representative in your territory.*

MARKEL ELECTRIC PRODUCTS, INC. — FAN-COOL HEETAIRE — **LA SALLE** LIGHTING PRODUCTS, INC.

139 SENECA ST. • BUFFALO 3, N. Y.

SELL...

Economy with Economaster

ESPECIALLY ADAPTABLE FOR FARMS and APARTMENTS

TOP	24" x 24" Porcelain Enamel with 3" back rail—one piece
HEIGHT	36"—Standard Height
SURFACE ELEMENTS	T & K—2-1100W—1-1900W—7 Cooking Speeds
SWITCHES	8 Position—7 Heat—Hart
THERMOSTAT	Hart—Fully Automatic. Automatic, switching from pre-heat to bake. Takes all guesswork out of baking. Neon Pilot to indicate when Oven is heating
OVEN ELEMENTS	2700 Watt Broil, 2000 Watt Bake. Removable for cleaning. Very fast preheat time
OVEN	16" x 16" x 20" Blue Gray Porcelain lined—5 rack positions—smooth rack supports in oven wall—easy to clean

Other features too numerous to mention—write for catalog giving full particulars.

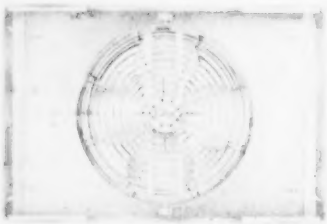
ECONOMASTER SALES, INC.

128 8TH AVENUE NORTH

NASHVILLE TENNESSEE

. . . . . "AIRCHANGER" COMBINATION . . . . .

EXHAUST — INTAKE — HASSOCK — DESK — WALL



As a "Window Fan"—Reversible Exhaust or Intake

Simple Arithmetic!

Beauty X Utility =

Giant Profits for you

with our

541 Utility Model

5 FANS for 1

Write for 1950 Catalogue on the *MOST EXTENSIVE* and *LEAST EXPENSIVE* Fan Line.

For 1950 It's

COMMERCIALAIRE INC. 300 Pacific Street, Brooklyn 2, N. Y.

As a "Hassock Fan"

As a "Wall Fan"

As a "Desk Fan"

cessary to meet the trend of this year's market. It gives the number of expected appliance buyers for 1950 in each of the 92 major marketing territories.

It lists the number of dealer floor displays and window displays needed each month in each distributor territory and ties in with this goal a new "WinDough" display contest with more than $15,000 in prizes and awards to dealers.

It specifies exactly how many Gibson appliance sales are needed to pay for the entire program. It provides a series of retail salesmen's product demonstrations timed to take less than 90 seconds each. There's a separate 90-second sales demonstration for each Gibson refrigerator, range, and home freezer model.

It even selects 484 newspapers approved for the program on the basis of coverage and penetration of circulation.

All of these plans have been tailored into separate packages for individual distributors, who are learning about the program from Gibson divisional managers who themselves reviewed the entire campaign at a series of "pre-heating" sales meetings at the factory.

The presentation to distributors is being made with assistance of "customer made" easels, and a roll of Gibson newspaper ads more than 20 feet long.

These ads start off with the low-priced super seven-cubic-foot refrigerator at $189.95 and move on up to "never-seen-before" features in each of its major lines.

Key gimmick in the campaign is a piggy bank bearing Gibson's nationally and locally advertised slogan, "Only Gibson gives you never-seen-before features for pennies a day."

The campaign, under preparation for months by Gibson, is now being uncovered in 92 distributor centers in a series of promotional conferences of divisional managers and distributor sales personnel. These will be followed by distributor sales meetings and dealer sales meetings.

•

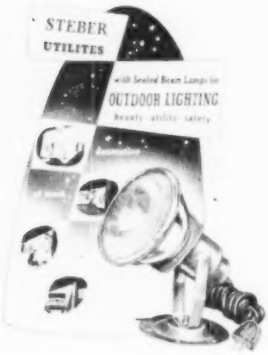
ANNUAL open house was held recently by Charleston Electrical Supply Co., Charleston, W. Va., for Norge dealers and customers. Dealers came from a 100-mile radius and from portions of West Virginia, Kentucky, Virginia, and Ohio.

Guests viewed new 1950 electrical appliances from 9:00 a. m. until 10:00 p. m. in the Ruffner Hotel, and the event was under the direction of John T. Morgan, sales manager.

Silent Salesmen

Steber — Lampholder Display

A NEW and attractive three-colored point-of-sale counter display is being offered free with each standard package of Utilite Lampholders for PAR 38 reflector type flood and spot lamps by the Steber Manufacturing Co., Broadview, Ill.



This display illustrates suggested uses for Utilites and PAR 38 lamps around the home for decorative lighting, lighting for safety and utility, and lighting for outdoor night-time recreation. It is an all-year-round promotion piece designed to create impulse sales of lamps and holders in department stores, chain stores, variety stores, electrical, and hardware stores.

Robbins & Myers — Fan Motion Displays

Two COLORFUL motion displays, introduced by the Fan Division of Robbins & Myers, Inc., Springfield, Ohio, will be used to promote R & M Quiet and R & M "Breeze-All" Fans.

Either display, constructed of heavy, durable cardboard, is easily assembled in a matter of seconds. Ideal for window, counter, or sales floor attractions, each unit includes a generous supply of promotional material stressing the features, ratings, and prices of the entire R & M line for '50.

The Quiet Fan display, portraying an overheated ostrich attempting to escape the sun's rays, is motivated by the oscillation of a 12-inch Quiet Fan. The "Breeze-All" display, emphasing outstanding sales features on rotating panels, depends entirely upon the air moving ability of the R & M "Breeze-All." Both displays are available under a special promotion plan or on a direct purchase basis through authorized R & M distributors.

Swartzbaugh — Talking Roaster

LATEST PROMOTIONAL device developed by The Swartzbaugh Manufacturing Company, 1556 W. Bancroft St., Toledo 6, Ohio, is the "Talking Roaster," for their line of Everhot electric roasters.

A sound slide film in full color entitled "Convenience Unlimited" appears on the screen when you turn the knob. Upon completion of the film, the cover closes automatically and the cycle is repeated when the next interested prospect comes along.

A quantity of these roasters are now being manufactured and they will be made available to retailers as a part of the new 1950 promotion program on the Everhot line.

Bell Electric — Extension Cord Set

THE NEW sleeve-packed No-Shok Safety Extension Cord Set, manufactured by Bell Electric Co., 1844 W. 21st St., Chicago 8, Ill., displays with instant selling conviction.

Folded flaps formed by the die-cut which displays the surface outlet, hold

New!
FASCO
10" "CEIL-N-WALL"
KITCHEN VENTILATOR,
Model 1020

FAN UNIT

FAN AND OUTSIDE WALL HOOD ASSEMBLY

For ceiling mounting or in inside wall, directly above stove

- Designed *in collaboration with America's largest builders* . . . for quick, easy, inexpensive installation.
- New FASCO Turbo-Radial propeller, specially engineered for pressure through ducts . . . develops pressure unobtainable with ordinary fan blades . . . three-speed control.
- Unique air intake prevents air re-circulation at inlet.
- Outside wall cap—aluminum . . . rustproof—has built-in balanced louvres. Overhang keeps out rain, drafts, cold.
- Beautifully designed . . . superbly finished . . . priced right.

FASCO wall ventilators are used by America's largest builders . . . 15,000 IN LEVITT HOUSES ALONE! The new FASCO "CEIL-N-WALL" vent will be a leader, too!

WRITE, WIRE or PHONE for complete information. FASCO Industries, Inc., 50 Union St., Rochester 2, N. Y. (Phone HAmilton 1800).

FASCO
INDUSTRIES, INC.
ROCHESTER 2, NEW YORK

All water heaters are *not* alike!

Take a GOOD LOOK

at

FOWLER

Porcelined

(GLASS-LINED)

Water Heaters

40-gallon Fowler Electric Water Heater. Approved by Underwriters' Laboratories

There are lots of things about Fowler *porcelined* Water Heaters you won't find in other makes.

Features like these make Fowler the easiest - to - sell water heater on the market today:

Electric

WATER HEATERS

Porcelain-lined tanks cannot rust, last longer. Triple, built-in insulation—dead air space, aluminum reflector jacket, 1 inch Fiberglas. Adjustable, economy temperature controls. Safe "Black Heat" lock-on, external-type elements provide efficiency and long life. Capacities: 5 to 80 gals. (Table Top models: 30 and 40 gals.) 20 year protection plan. Approved by Underwriters' Laboratories.

Gas

WATER HEATERS

Fowler Gas Water Heaters have many outstanding features including porcelain-lined tanks. Capacities: 22 gals., 33 gals., and 44 gals. Approved by AGA. 15 year protection plan.

BUILT RIGHT by a manufacturer with more than 35 years of water heating experience.

LOWEST PRICED ... The lowest priced line of non-corrosive tank water heaters being offered to the independent dealer.

Dealers! Distributors!

GET THE WHOLE STORY

Send for complete information TODAY!

FOWLER MANUFACTURING COMPANY

2545 S. E. Gladstone • Portland 2, Oregon

Please send complete information about Fowler Electric and Gas Water Heaters.

Dealer:

Address:

Distributor:

Address:

the outlet firmly in place at the left of the sleeve. The banked cord is encased alongside, with the cord ends and outlet projecting for easy inspection. Printed in red and blue on card stock, the package is designed for utmost attention value through simplicity and bold, brief copy.

Boldly featured is the crawling baby at wall plug illustration which has become the manufacturer's trade-mark identification. Although the entire unit is small—3¼ inches by 5½ inches—the effect is impressive and the package has unmistakable recognition value.

Vornado — Fan Display

This new, eye-catching Vornado girl on a horse, animated by the fan air-stream, is offered as a window, counter, or floor display by the O. A. Sutton Corp., Wichita, Kans. Lithographed in full color on heavy cardboard, the display is easily set up and requires little space. It is supplied through jobbers to franchised Vornado dealers.

Holcomb & Hoke — Fan Display Stand

The new Silent Breeze Gold Seal display stand, offered to dealers by Holcomb & Hoke Mfg. Co., Inc., 1545 Van Buren St., Indianapolis 7, Ind., comes ready for easy assembly, complete with screws and holes.

For use with the Silent Breeze U5655C Gold Seal Fan, the stand measures 42¾ inches on two sides, 48 3/4 inches on the other two, and 72 inches high. The fan is installed in the top, and a display placard appears on one side of the stand.

Laundry Servicing

(*Continued from page 87*)

sively. Mundell concentrates on holding these in the evenings, when both husband and wife can attend, and finds that 50 per cent of the selling is already done if the husband accompanies his wife.

Two such schools have been held to date, both staged by a Union Electric Company woman home economist, with Mundell paying the bill for a roast, salad, pies, etc. Each prospect is served a buffet supper, and while the cooking schools promote ranges,

SACRIFICE

Due to changed specifications on a housing project we must dispose of 24—50 Gal. electric water heaters. Manufactured by Combustion Engineers, carry a one year factory warranty. Single element, 1500 watt. No magnesium rod.

Price $47.00 each

Sight Draft

F.O.B. West Chester, Pa.

I. M. CLOMPUS CO.,

Distributors

Wayne and Market Sts.

West Chester, Pa.

refrigerators, and small appliances as well, the emphasis again is heavily on the home automatic laundry display.

These are staged approximately once two months, and cost the dealer around $12 per event. In return for one such promotion, Mundell sold six complete automatic home laundries—an example of how important he considers them toward building good will and introducing people to the store.

Mundell has won much good will by offering in newspaper advertising to let local people use one of the company's washing machines when their own is broken down. Mothers of small children, or housewives with large families, can bring their wash in, put it through the automatic home laundry set up, or Mundell will cheerfully dispatch a conventional washer to the customer's home, while her own is being repaired. The good will which this simple service has built up with distraught housewives can well be imagined.

With his service organization and the huge parts department operating as a constant magnet for new traffic, Mundell sees no reason why sales volume should fall off during 1950. Where customers are inclined to watch dollars closely in buying new appliances, others will spend more for parts and repair work, he is convinced. "That's my way of meeting future conditions," he said, "a heavy play on parts, service, repair work, and really practical automatic laundry equipment demonstrations."

Overcoming Resistance

(*Continued from page 84*)

more it is a problem always with us, for every field of business is competing with the appliance dealer for Mr. and Mrs. John Public's dollars.

Answering this objection today is a matter of making what we have to sell more desirable than what some other businessman in some other field has to sell. Just saying that we have the best electric refrigerator on the market won't sell this customer; we have to prove to him that spending his dollars for a new refrigerator is wiser than spending them for furniture or jewelry or trips or something else.

Our advertising, promotional effort, and direct selling should work harder today than ever before at selling the reasons why people should spend their dollars with us than with someone else!

5. "My neighbor bought one of these and has had nothing but trouble with it. I'm not buying one until I know they are right!"

This is the penalty we are paying today for the eagerness of all of us to make sales in the days just past when customers would buy regardless of quality and whether or not an article was made the way it should have been made. It's also payment for some sloppy service technique on the part of many electrical dealers.

Such objections must be answered individually, we have to find out who the neighbor is, what brand he purchased, and why he had trouble with the one purchased. When we have this information, we can answer the objection to the customer's satisfaction; without it we will make little headway.

"Find out why there was trouble," one dealer advises, "and you'll have the answer to how to make the sale then and there, for the things that caused the trouble have been taken care of by now."

6. **"Our old one's okay. As long as it's doing its job, we won't be replacing it."**

That's a tough one to answer in any man's territory, but there is an answer. Sometimes we may act skeptical when a manufacturer releases his new model and praises the changes in it to the sky, for they may seem unimportant to us. They are most important, for those changes are the very reasons why every customer who owns "an old one" should replace it today.

Those changes and what they do for the customer are always the answers to such an objection.

7. **"That's too much . . . we can't afford it!"**

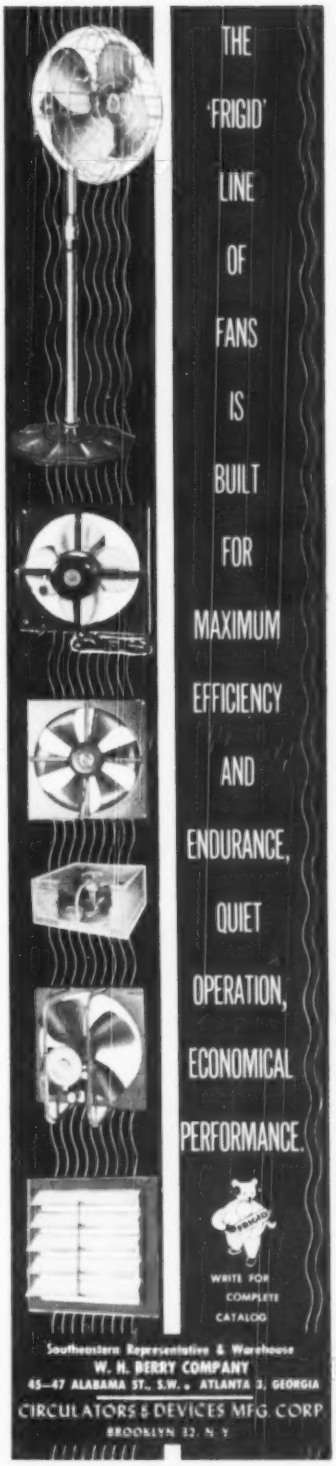
Appliance dealers have been selling for spot cash for so long, and customers have been paying cash or on 30-day credit for so long that in many cases both have forgotten how to use installment financing.

The old prewar answer, "Well, can you afford 20 cents a day?" which sold the installment financing story in merchandising has almost been forgotten.

The answer to this objection is in one dealer's statement, "This will cost you so little per day that you can't afford not to buy it!"

8. **"Yes, we want it, but we're not ready just now. We'll let you know later."**

This "alibi" is being heard more and more today. The best answer, if determined selling fails on the spot, is to secure definite date commitments from the customer, record those, and make it a point to follow through with a personal call upon that customer when the date comes around.



YOU DON'T HAVE TO BLOW ABOUT

Viking

WINDOW FANS

Viking

AIR CONDITIONING CORP.

5601 Walworth, Cleveland 2, O.

Since we have secured a definite commitment, he is loath to use the objection again and can be sold. The safest procedure, however, is to prove on the spot to the customer that he is ready now for the appliance under discussion.

Inventory Control

(Continued from page 83)

the salesman who handled the transaction, amount paid down, trade-in allowance if any, and the same serial numbers, cost codes, etc. In this way, upon opening to the proper page, the appliance management can read from left to right the complete history of the received appliance, from the date it came into the warehouse through its display time in the store, and its ultimate sale. Thus, there is nothing in the way of facts concerning a particular appliance which is not revealed by this fingertip system.

The advantages of such a system are manifold, according to the southern appliance dealer. One of the most readily recognized benefits is protecting the store against unfair costs in warranty maintenance. Whether it is deliberate or not, the Pettee Company has been plagued by refrigerator purchasers, for example, who experience difficulty with a refrigerator which may have been bought 16 to 18 months ago, and demand free service, even though the appliance is guaranteed only for a year. The unalterable details recorded in the ledger establish as a certainty the date on which the refrigerator was delivered, and thus the customer must pay for the service.

Next, in these days of changing appliance prices, it is relatively risky for the department to maintain a large, heavy stock of appliances which may drop in value from day to day. Thus, the Pettee store is attempting to operate with a minimum inventory, fast moving, and fluid, which involves no potential loss. All of the inventory picture can be quickly grasped through looking through the left hand side of the ledger, for if the corresponding column on the right side of the book is empty, it is an indication that the item is still on hand.

Still more important is the ability to detect slow movers in the stock. For example, Pettee Company recently discontinued handling a small flat-top apartment-size refrigerator, which was felt ideal for the market, but which for some unknown reason, had sold poorly. Removing this from the inventory increased the "open to buy" funds for faster moving refrigerators.

Lastly, there is the matter of commission payments to salesmen, who can become involved in much friction and ill will, particularly where split commissions are involved. Details in the book show to whom each sale should be credited, any special considerations involved, etc., with the result that there are now no arguments or hard feelings involved.

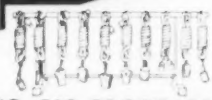
Florida Exposition

(Continued from page 82)

Reddy Kilowatt was there, greeting all comers and amazing grown-ups and children alike with his patter about the leisure of living electrically.

Florida distributors played a big part in the show. Notable among these was the Rayburn Electric company, which occupied one of the largest exhibit spaces in the building and Haggerty, Incorporated, Tampa air conditioning and refrigeration firm, which introduced the new radiant glass heat and displayed York equipment for which it is west coast Florida distributor.

increase Cord Set SALES



TWO BIG-PROFIT DEALS

free Self-Selling DISPLAYS

YOUR CHOICE of two smartly finished wood displays, two fast-moving deals offering a DAVIS Cord Set for every need. Display No. 5, 8½" x 8½" x 16", holds 54 Davis sets; display No. 10, 20" x 20" x 8", holds 60 Davis sets. Each set is fully displayed and *tagged with informative, self-service label* to increase impulse buying, reduce sales time.

See YOUR JOBBER OR WRITE DIRECT FOR FULL DETAILS AND PRICES

DAVIS Mfg. Company

PLANO 1, ILLINOIS

Southeast Rep. H. R. Dewees Co. Walton Bldg., Atlanta, Ga. — Southwest Rep. M. C. Huie Co. Thomas Bldg., Dallas, Tex.

Appliance dealers were important in the success of the Exposition and all manufacturers and distributors included their dealers who "manned" the exhibits and interviewed visitors.

The building which houses the Exposition is one of the largest and the newest on the fair grounds. Giant illuminated pylons stood high above the crowds. One theme was carried out throughout the building decorations and each exhibitor was supplied with basic "theme" spaces which they then fixed up themselves.

A huge sign, over the main entrance proclaimed: "here you learn the secret of leisure living electrically."

The Tampa Electric Company, now in its 51st year of service, has sponsored the Florida Electrical Exposition for the past four years. It is one of its major annual projects and a large part of its advertising and sales promotion budget is devoted to it. Newspaper and radio advertising is carried on throughout the territory in advance of and during the Exposition. Billboards, erected by the Fair, advertise it throughout Florida. A large amount of publicity is received throughout the state.

P. L. Steadley, general manager of the Florida State Fair, authorized this statement to Electrical South:

"The Florida Electrical Exposition has become an important and foreign part of our great annual show. Not only does the Exposition attract thousands of people to see it, but the tens of thousands who come each year to see the Fair are also added audience to this, the largest commercial exhibition which our fair exhibits."

M. L. (Mel) Anthony, Tampa Electric sales manager, who "heads up" the Exposition planning and promotion, is already at work on next year's show.

"Each year the show gets better and becomes more important. Our Exposition in 1951 will be our biggest. New ideas and new features are already being planned for it."

Training Salesmen

(Continued from page 105)

questions, expecting the impossible and wanting to wait for more improvements. Salesmen must be trained to answer their questions satisfactorily and sell them on buying now.

Some people will be disappointed if the new products we are selling are not completely different from what they have been using. So the salesmen must be trained to answer these questions and sell them on not waiting for a "dream model" that is still in the distant future, but on buying the products that are available now.

Sales training is also needed more because most dealers have new and inexperienced salesmen who have virtually no idea of the fine points of selling and no knowledge of our products.

These men cannot be expected to pick up on their own and without careful training and instruction on the basic attitudes and fundamental techniques of good selling. Likewise, the new man has to start from scratch in learning our products and our methods of doing business. These men will require a great deal of training.

The dealer may say that his men are experienced, and know how to sell. In such cases, we should point out that proven salesmen need training because they have ...

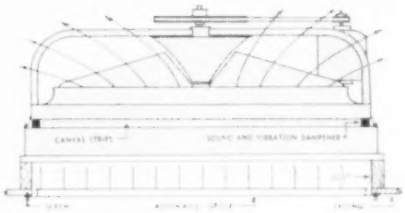
1. Grown rusty on product knowledge

Get set for next summer's sales with the great

Quietaire

THE REVOLUTIONARY ATTIC FAN THAT

SELLS FOR LESS, OFFERS BIGGER DEALER PROFITS



NOW is the time to contact

WESTINGHOUSE ELECTRIC SUPPLY CO.

or write direct to

QUIETAIRE CORPORATION

505 N. Hutcheson Ave. Houston, Texas

CUT YOUR PAYROLL COSTS

Use

CARBONIZED

TIP-ON-VELOPES

FOR CASH PAYROLLS

- *Timesavers*
- *Less Work!*
- *More Protection!*
- *Free Samples!*

Cut your payroll in half with carbonized Tip On Velopes. They provide a permanent record of tax deductions, wages, etc. A signed receipt for extra protection. Write for free samples.

ATLANTA ENVELOPE CO.

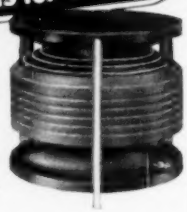
Post Office Box 1267

ATLANTA 1, GEORGIA

New! EASY-TO-SELL

FASCO ARCTICAIRE FANS for '50

The Line that SOLD OUT in '49 Now FOUR WAYS BETTER for '50



Model N-55
12" Lo-Level Fan
3 speeds
(Also available for '50 in 10" size single speed)

● NEW SIZES
The beautiful, fast-selling FASCO Lo-Level Fan . . . now made in TWO sizes . . . 12"—three speeds . . . and 10"—single speed.

● NEW FINISHES
Always tops in eye appeal . . . FASCO Fans for '50 are color-styled, finished for new beauty that lasts for years.

● NEW MODELS
You'll see several other new sure-fire sellers at the Housewares Show . . . or WRITE NOW, for advance information . . . they're the hottest news in the industry.

● NEW EFFICIENCY
FASCO Fans for '50 are again out front in overall performance . . . delivering more air, more quietly, with longer trouble-free life.

16" Model N-163
DeLuxe Heavy Duty

10" Model N-103
Standard

12" Model N-128
Heavy Duty

16" Pedestal Model N-165. Adjustable in height . . . 4 to 7 ft.

12" Model N-121
Standard

10" Model N-101
DeLuxe Heavy Duty

WRITE!
Be sure to get your copy of the 1950 FAN CATALOG . . . NOW!

FASCO INDUSTRIES, INC.
ROCHESTER 2, N. Y.

edge

2. Forgotten sales techniques
3. Developed bad work habits
4. Acquired an indifferent attitude, and because
5. Customers and selling conditions are different.

It has been a long time since anyone in specialty has been able to practice his art. Salesmen whose careers were interrupted by the war have forgotten a great deal. They need refreshing.

Those who were able to continue through the war years have grown used to not selling, and become indifferent to customers. Also, because customers are different, have different ideas than before the war, and ask more questions, the salesmen's old knowledge and methods will not be adequate. So, the old salesmen will need complete knowledge of new products.

Better selling is going to be needed to meet coming conditions. Untrained men sent into the field to find and sell prospects on their own and left to sink or swim will usually sink—and the dealer will sink with them!

As we all realize, there is a tough selling job ahead. The dealer cannot expect his men to do this selling job without thorough training. It should be pointed out that it is nothing short of criminal to send men out to sell without proper training; that the dealer's future is in the hands of his salesmen; and that he is risking the loss of his volume, his profits, and his entire business if he leaves the selling job to salesmen who have not been thoroughly trained.

After-Sale Gifts

(Continued from page 29)

package of enamel cleaner, guaranteed to do away with grease, stains, etc., which may mar the appearance of the appliance. On the second month, a handy brush, or some other such premium is offered.

"We get a continuously appreciative response all the way," Mr. Silk said. "Far sooner in fact than if the premium offer was used as a means of enticing the customer to buy something. The usual appliance purchaser is quite surprised to find free gifts coming after she has made her purchase, and for that reason, curiosity alone is enough to bring her in. Naturally, good will built in this way will have a lot to do with where the customer buys her next appliance—and we firmly believe that a lot of repeat sales we have accomplished during 1949, are based entirely on this inexpensive giveaway program."

The customer file referred to above will gradually change over from a mere record of customers and a direct mail list, as it is currently being used, to a "hot prospect list" in the future, as Mr. Silk explained it. Eventually, as time goes by, a card will represent homeowners who have been using Patrick & Silk appliances for five years, six years, up to 10 years—who will then be considered logical replacement prospects. With full information on each customer's card covering the purchase method, the original price, the type of home in which the appliance was installed, etc., Patrick & Silk will be able to make trade-in allowances from the cards themselves—instead of the usual estimation expense. Far more important, however, is the immediate good will which this program has brought about.

For your needs in WASHER PARTS
TRY
Refrigeration Supply Co.
1831 W. Broad St.
Richmond, Va.

FRIGID
Slimline WINDOW FANS

The new motor noise silencer rubber hub propeller and motor mounting makes this a really quiet window fan.

Telescoping side panels, adjustable for windows from 29½" to 38" wide. Displaces 3520 cubic feet of air per minute (changes air in 2 or 3 average size rooms per minute). 3 Quiet Speeds 700, 900, 1100 R.P.M. Occupies little usable room space . . . only 6½" deep.

WRITE FOR CATALOG.

Southeastern Representative & Warehouse:
W. H. BERRY COMPANY
45-47 Alabama St., S.W. Atlanta, Georgia

CIRCULATORS & DEVICES MFG. CORP.
BROOKLYN 32, N. Y.

Talking Appliances

(Continued from page 78)

Mr. Fisk says that even the home that seems to have every available appliance that mind can conceive and money can buy is an excellent prospect for new sales. Its complete stock of working equipment is convincing evidence that it is sold on their use. Old appliances are continually depreciating and there are always new features being added to new machines to create an inducement to trade in an old one.

Whenever the salesman runs across a customer who is almost but not quite sold, he may offer to install a washer, refrigerator, or other appliance for two or three days' trial without obligation. After she gets the feel of the appliance, she is easy to lead to the dotted line.

Murrey and his two salesmen take turn about working the countryside. Some days two of them are out in the field while the other, with a part-time clerk, remains in the store. All three of them are skilled electricians and do any necessary servicing on any previously sold machine in the home of a customer.

One important sideline that the firm carries on in connection with its appliance sales is a specialized floor covering job that Murrey used to pursue in his pre-appliance days. Mr. Fisk, in addition to his electric sales and service work, is his floor specialist. Mr. Westmoreland is the chief appliance service man. Mr. Fisk lays only floors in which asphalt or rubber tile is used. He does many jobs in commercial buildings running to $1,000 each at once. But this activity aids and abets the firm's appliance sales in farm homes.

Customer Viewpoint

For example, many a woman who is a new power customer on a recently built line is seeing visions and dreaming dreams of an all-electric kitchen. She has to start off with a refrigerator or range and add the other appliances piecemeal as income permits. She wants an attractive floor covering on this dream kitchen before she buys a single appliance. By doing this work for her Fisk gets a toe-hold on the sale of future electric equipment.

Appliances are sold on down payments of as low as 10 per cent. Further payments are covered by a contract that includes complete fire and tornado insurance premiums on the machines in the payments. It provides as safe a contract as any dealer can expect. "We have repossessed only two appliances in all our experience," explained Fisk. "We resold one of them at a slight loss and the other at a slight gain over the unpaid balance, allowing us to just about break even on the deals."

Henning Murrey was cited by a distributor at Nashville as one of his most aggressive dealers. "The appliance business is today such a highly competitive activity," explained Murrey, "that you have to carry it direct to the customer and outsell the dealer who got there ahead of you or who is right behind you."

He is rather conservative about which of his promotional ideas is paying off best. He says that when you contact a prospect in his home, in the store, on the street, and then bid for his attention by radio, newspaper, and direct mail, it is impossible to say which appeal had the greatest influence in leading him to the dotted line. But he knows all of them together are working!

Do you read

ELECTRICAL SOUTH

Regularly?

ELECTRICAL SOUTH serves the specific needs of specialists within the industry. It serves also as a forum or common meeting ground where problems that affect several branches of the industry are discussed to the mutual advantage of all.

If you're looking at the other fellow's book, you can have your own copy each month for three years for only $2.00. Send your name and address and remittance now . . . . or send your name and address, and we'll bill you later.

ELECTRICAL SOUTH. Now, in its 29th year serving the nation's fastest growing electrical market—the South and Southwest, a W. R. C. Smith Publication, 806 Peachtree St. N. E., Atlanta 5, Ga.

—MOST COMPLETE LINE FOR '50!

CHELSEA FANS

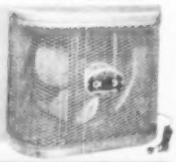
— for every commercial and residential requirement!

Specifying Chelsea Fans for every installation is one sure way to proper ventilation. There's a Chelsea model for every requirement—and each type is certified as to performance in accordance with the Standard Code of the Propeller Fan Manufacturers Association.

Comfort Cooler Type ED

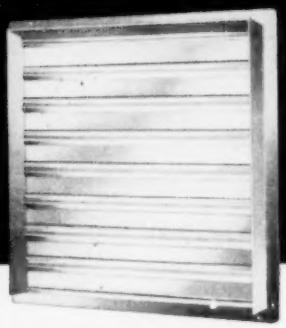
Spring Mounted Wall Type EH

SEND FOR YOUR *FREE* KIT!
Contains all the information you need to make ventilating and cooling installations in factory, home, office or shop — Selection of proper fan, installation hints, etc. No obligation. Write Department T



CHELSEA FAN & BLOWER CO., INC.
1206 GROVE ST., IRVINGTON, N. J.

they all want **AIR-FLO**



MODEL A-555

THE AUTOMATIC SHUTTER WITH ALL THE FEATURES

FRONT VIEW—CLOSED

IT TAKES THE LOAD OFF THE FAN!

Aluminum louvers open fully, permitting capacity fan operation. New heavy reinforcement strip adds strength and long life to the louvers, assures quiet operation and perfect counterbalance, prevents rattling. Deep shroud protects shutter from high winds. Tie-rod, brackets and bearings inside frame, not exposed to weather. Special finish resists corrosion. Many other features.

WRITE FOR NEW AIR-FLO CATALOG 43-B

Illustrations and details of the complete Air-Flo line.

AIR CONDITIONING PRODUCTS CO.

2340 W. LAFAYETTE BLVD. • DETROIT 16, MICH.

OVER 200

Sizes and Types of FANS . . .

"The BIG NAME in FANS"

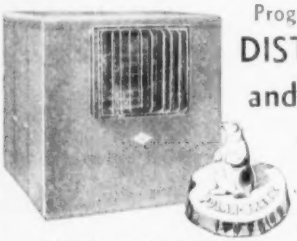
STANDARD ELECTRIC

MANUFACTURING CO.

West Berlin, New Jersey

WRITE FOR CATALOG 4S

TERRITORIES AVAILABLE to Progressive, reliable DISTRIBUTORS and DEALERS!



the New — IMPROVED "POLAR BREEZ" AIR COOLER

IMMEDIATE DELIVERIES

If you handled the nationally accepted and profitable Hall line before the war, you'll be glad to know these top quality evaporative cooling units are again available with many improvements. "POLAR BREEZ" is sold in complete "packaged units" in various sizes for all types and sizes of business buildings and stores.

Air is purified by a chemical process removing bacteria and algae. Range — 2000—25,000 C.F.M. . . . Glass Fibre Cooling Pads . . . Self cleaning — no servicing or repacement . . . Weather Proof Metal Housing . . . Multi-Blade Pressure Type Blower . . . Directional Flow Grille . . . Roto Atomizer Doubles cooling and washing action!

"Backed by over 25 years in the industry."

INVESTIGATE NOW! Write, wire or phone for details — Morton Grove 4594.

AIR COOLING ENGINEERING CO.

Dept. B — Morton Grove, Ill.

CTI PROPERLY TRAINED MEN HAVE THE "KNOW HOW"

PRACTICAL SHOP TRAINING in ELECTRICITY, MAJOR APPLIANCE Service, Maintenance, Installation

Write for Catalog ES5—Veterans ask about GI Training

Manufacturers, distributors, etc., when you need TRAINED men contact CTI Placement Bureau.

COMMERCIAL TRADES INSTITUTE INC.

of Alabama

200 South 20th St., Birmingham, Ala. — Phone 7-0555

Member: Southern Association of Private Trade Schools

Handbooks of Adequate Wiring

Two valuable booklets available with Electrical South.

"Handbook of Residential Wiring Design" and "Handbook of Farmstead Wiring Design" summarizing the latest authorative information on adequate wiring systems, may be obtained with a three-year subscription to Electrical South at the special price of $2.50 for a limited time. Send name, address, and remittance at once to make sure of getting your copies.

ELECTRICAL SOUTH

806 Peachtree St., N. E. — Atlanta 5, Ga.

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Want a New Salesman for Nothin?

I'm it!

Wagoner

WATER HEATERS SELL THEMSELVES!

"Put me out where folks'll see me . . I'll do 90% of your selling for you. All you have to do is close the deal . . get the signature on the dotted line!

"That's easy, too, because Mrs. Home Maker will marvel at my beauty and utility . . and, the man of the house—who clings to the family purse strings—will cater to her whims when he glances at my amazingly low price. SUCH VALUE!

"Low price, yes . . but *your* fair profit's there. You'll profit *more* with the sale of Wagoner Water Heaters and Ranges than any similar items.

"MAIL THE COUPON BELOW for 1950 Wagoner Booklet in color, showing complete Wagoner family of Water Heaters and Ranges. It gives complete facts, too!"

MR. W. G. WAGONER, *President*
America & Southern Corp., Nashville 10, Tennessee

Please send me booklet S-45 which describes the complete line of Wagoner Products—free of charge and without obligation, of course.

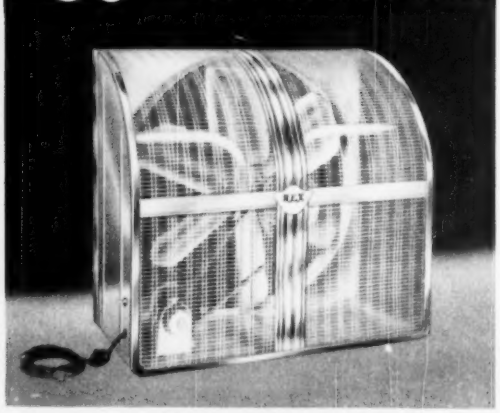
NAME _____

STORE NAME _____

ADDRESS _____

CITY _____ STATE _____

REX AIRATE THE *New* 1950 FANS YOUR CUSTOMERS WANT



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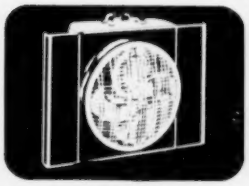

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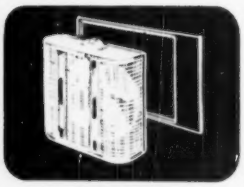

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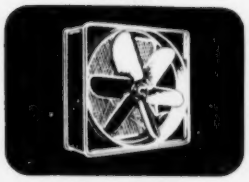

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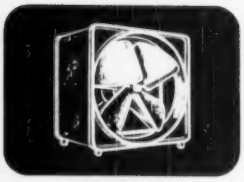

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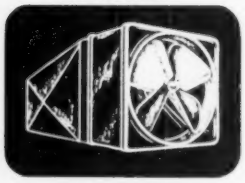

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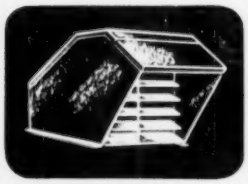

SKYBREEZE

28 NEW STYLES AND SIZES

GET YOUR CATALOG NOW!

Air CONTROLS INC

DIV. CLEVELAND HEATER CO.
2310 SUPERIOR AVENUE
CLEVELAND 14, OHIO

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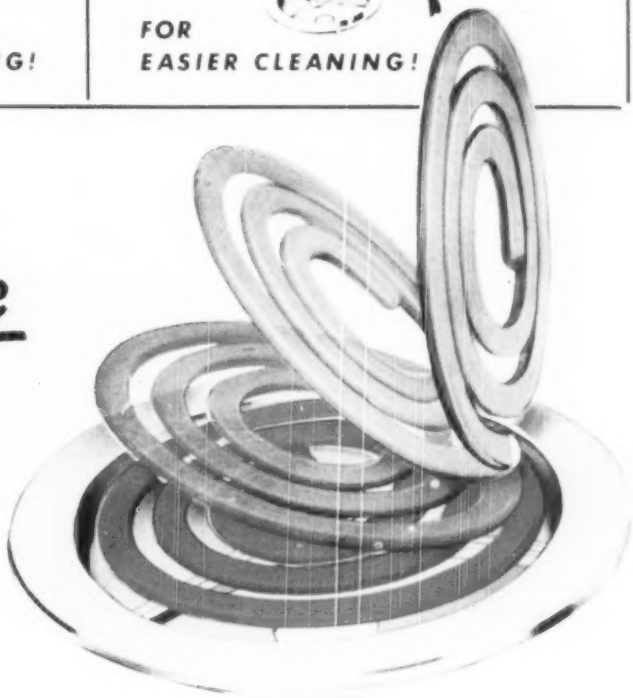
DOWN

FOR LOWER-COST COOKING!

UP

FOR EASIER CLEANING!

And so simple to use!



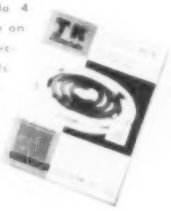
MONOTUBES HEAT EVENLY ALL OVER, AT EVERY SETTING

TK Monotube* units bring a simplicity to electric cooking that appeals instantly to homemakers! Regardless to what heat position the switch is turned, the Monotube always heats evenly and uniformly—*over the entire surface!*

You'll find sales coming easier and faster when salesmen demonstrate the exclusive "Swivel-action" features, show how simply the Monotube coil can be swung up and out of the way—*even when it is hot*—for fast, easy cleaning of the drip pan. Too, the sturdy, flat single coil makes possible 32.8% more contact area with the cooking utensil. This means foods come up to cooking temperatures quickly and economically. This is another advantage readily appreciated by Mr. as well as Mrs. Range Buyer.

Interested in Building a Profitable Replacement Unit Service Business?

Write today for TK Replacement Catalog No. 4. This catalog provides complete information on adapting Monotubes to practically all electric ranges. "Monotube Swivel Action" Units will provide a big plus for your range service business. Write today, catalog is free; we will put you in touch with your nearest TK Distributor.



BOOST SALES WITH MONOTUBES

*T. M. Registered

...They stand alone

TUTTLE & KIFT, Inc.

1823 N. Monitor Avenue, Chicago 39, Illinois

A Subsidiary of Torro Enamel Corporation

Move more fans with fans that move more air!

Shovelaire®

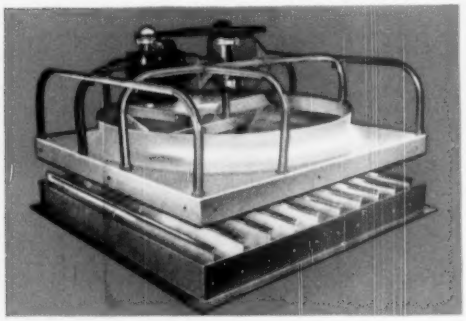
— FANS FOR INDUSTRIAL COMMERCIAL and HOME USES!

The new 1950 line of Shovelaire fans offers every type from a 10 inch "buzz" fan with 982 CFM to a heavy industrial exhaust fan with 22,300 CFM capacity. There's a Shovelaire fan to handle your ventilating requirement better, at lower cost.

"Old Reliable" Shovelaire

EXHAUST FANS

Nine different models in exhaust fans that defy comparison. For home, shop, factory or general commercial use. Maximum air delivery, minimum noise. Variable 8-speed pulleys. Check catalog for features.

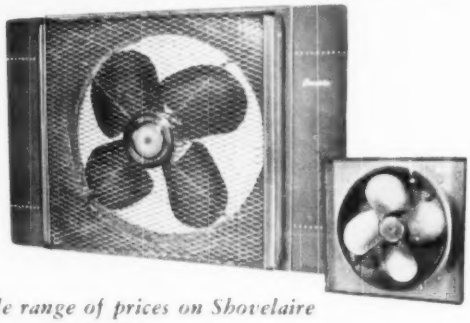


Low attic clearance in Shovelaire

VERTICAL DISCHARGE FANS

In 3 sizes, 8 speed pulley, patented Shovelaire blades, ball-bearing shaft, lightweight tubular steel steel frame, rectangular to save space. Operates vertically or horizontally. Shutter optional. 30" fan (7100 CFM) lists as low as $109.50.

Distributors: Investigate the Shovelaire plan. Write for prices and literature.



Wide range of prices on Shovelaire

THIN WINDOW FANS

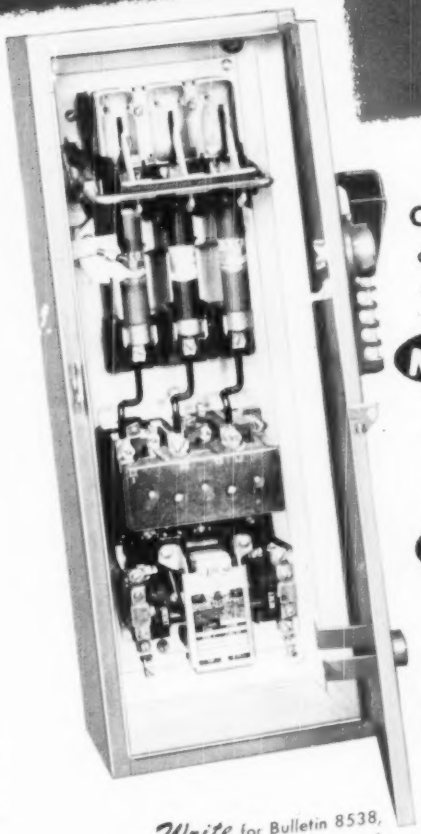
Only 5 inches thick. Compact, efficient and beautifully designed. Economy group includes 3 models. Deluxe VERI-THIN group offers two sizes, 4-speed reversible. Moves more air than any other window fan of equal size.

Dealers: Write for new catalog. See the line, get prices and name of nearest distributor.

C&H Air Conditioning Fan Company, Inc.

General Offices . . . 1603 Dekalb Ave., N. E.
Atlanta, Ga.

DESIGN LEADERSHIP



THIS NEW SQUARE D COMBINATION STARTER (SWITCH TYPE) offers Greater Operator Safety and Longer Motor Starter Life

NEW **Switch Operating Mechanism** provides maximum operator safety. Interlock prevents opening door when disconnect is on. When door is re-closed, self-aligning handle indicates true position of disconnect. Operating handle can be locked on or off with one, two, three or four padlocks of varying sizes. Handle-locking mechanism also locks door.

NEW **Switch Design** has quick make and quick break action—no dead center—visible blades for easy checking—magnetic arc plate for high rupturing capacity—dead-front line terminals, protected by hinged arc chamber cover—positive pressure jaws and fuse clips—non-tracking insulation.

NEW **Features in Magnetic Starter Design** Square D's time-proven design has always provided easy installation, simple maintenance, and long life. Now, even longer life is assured by straight line, guided motion of armature and movable contact assembly which eliminates bearing and reduces wear. For added convenience and flexibility, Square D starters now have NEMA standard mounting and wiring.

Write for Bulletin 8538, SQUARE D COMPANY, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

ANOTHER NEW TRUCK FOR TYLER!
HOW DO THEY DO IT?
WIRING BY
TYLER ELECTRIC CO. ELECTRICAL CONTRACTORS
I THINK I CAN TELL YOU HOW THEY DO IT. I WAS DOWN AT THE G-E DISTRIBUTORS THE OTHER DAY WHEN CHARLIE TYLER WALKED IN, AND....
HI, CHARLIE! STILL THE BIGGEST G-E BOOSTER IN TOWN?
ABSOLUTELY! AFTER ALL, I'VE BUILT MY REPUTATION ON GENERAL ELECTRIC. MY CUSTOMERS KNOW THE G-E NAME, AND I KNOW I CAN TRUST G-E PRODUCTS.
AND, YOU KNOW, CHARLIE, YOU'RE KEEPING YOUR INVENTORY DOWN BY HANDLING ONLY G-E PRODUCTS.
RIGHT AGAIN. I DON'T NEED TO STOCK ITEMS FROM HALF A DOZEN MANUFACTURERS. ONE LINE IS ALL I NEED.
WHILE I'M AT IT, I MIGHT AS WELL ADMIT THAT I LIKE YOUR SERVICE. YOU AND THE GENERAL ELECTRIC FIELD MAN HAVE HELPED ME OVER A LOT OF ROUGH SPOTS... SAVED ME A GOOD MANY HOURS ON PROBLEM JOBS.
NOW THAT WE'RE THROUGH TOSSING OUT BOUQUETS, WHAT CAN I SELL YOU?
HERE'S MY ORDER. AND MAKE SURE IT'S ALL GENERAL ELECTRIC.
SO, THAT'S THE SECRET OF TYLER'S SUCCESS. IT'S G.E. FOR ME FROM NOW ON.
THANKS FOR YOUR HELP. YOU'LL BE SEEING A LOT OF ME!
ANY TIME. AND, WHILE WE'RE TALKING ABOUT GENERAL ELECTRIC SERVICE YOU'LL BE INTERESTED IN THIS NEW AVA CABLE BULLETIN. TAKE A COPY WITH YOU.
LATER
FOR UP-TO-THE-MINUTE INFORMATION ON G-E WIRES AND CABLES...G-E CONDUIT PRODUCTS...G-E WIRING DEVICES, SEE YOUR GENERAL ELECTRIC CONSTRUCTION MATERIALS DISTRIBUTOR. OR WRITE TO SECTION L2-424 CONSTRUCTION MATERIALS DEPT., GENERAL ELECTRIC CO., BRIDGEPORT 2, CONN.
GENERAL ELECTRIC
CONSTRUCTION MATERIALS DEPARTMENT